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China Report

AGRICULTURE

No. 228



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SCIENTIFIC COTTON FARMING DISCUSSED IN TERMS OF OLD PEASANT ADAGES

Beijing NONGCUN KEXUE [RURAL SCIENCE] in Chinese No 4, 1982 pp 10-11

[Article by Wang Ruohai [3076 5387 3189] and Li Xiulan [2621 4423 5695]:
"Sowing of Seeds To Keep a Good Stand of Seedlings, Keys to Increased Cotton Yields (Scientific Truth in Old Peasant Adages)"]

[Text] Sowing of seeds to keep a good stand of seedlings is the beginning of cotton growth and the beginning of field care. Only when seeds are sown well to maintain a good stand of seedlings can all other farming techniques be effective and a bumper harvest won. Consequently, sowing of seeds to maintain a good stand of seedlings is the most important key to increased cotton yields.

In the course of a long period of production, the broad masses of cotton-growing peasants in China have accumulated abundant experience in the sowing of seeds to maintain a full stand of seedlings. An old peasant saying goes:

"When there are seedlings, growth can occur;

"Without seedlings, one can only dream.

"A full stand of seedlings makes for 30 percent of the harvest.

"Sturdy seedlings make for half of the ripe cotton."

Cotton is a dicotyledenous plant whose seeds are large and its two cotyledons are fleshy, which makes it much more difficult for them than for other crops to sprout and emerge from the soil. The masses say that cotton has a large head and a thin neck, and when it pushes up against the soil, a lot of effort is required, and it is hard for it to come through the soil. Moreover, after sprouting, the young seedlings are tender and are easily affected or killed by diseases and insect pests. So, the broad masses of cotton-growing peasants urgently hope to get through the dangerous stage of sowing to get a good stand of seedlings without a hitch by first getting a full stand of seedlings, and then going on to getting early, sturdy, full, and even growth of seedlings.

How does one sow seeds to get a good stand of seedlings?

First, both the seeds and the soil have to be made ready before sowing. This forms a foundation for sowing the seeds to get a good stand of seedlings.

In preparing the soil, since the cotton growing areas of north China are usually dry in the spring with little rainfall, preparing the soil to preserve soil moisture before sowing is done is extremely important. An old peasant saying goes:

"It takes deep plowing and fine harrowing to make the cotton grow; shallow plowing and coarse harrowing is a waste of effort.

"When harrowing is done early, soil moisture is kept."

When cottonfields are plowed deeply in autumn and the surface layer is friable, not only is the breakdown of nutrients promoted and the fertility of the soil increased, but it also helps the soil accept more winter and spring rains or snows and irrigation water, making the basic soil moisture of the cottonfields good. In early spring right after the soil's surface thaws, or else following spring watering, harrowing should be done promptly to make the surface soil of the cottonfields friable and the underlying layer firm to reduce evaporation of the soil's water content and to preserve soil moisture, all of which helps sprouting of the cotton.

However, in south China cotton-growing areas where spring rains are fairly plentiful, it is necessary to dig trenches and erect ridges in fields to prevent water stagnation so that seedlings will be able to emerge. Therefore, their experience is: "When trenches are deep and ridges narrow, cotton will be harvested year after year."

As far as readying the seeds is concerned, seeds should be selected before sowing, largely by grain-by-grain selection, selection through the water flotation method, or through winnowing to get healthy, plump seeds. This is very important in improving cottonseed quality and in winning a full stand of sturdy seedlings. As the old peasant adage goes:

"Good seeds produce good seedlings; good seedlings form good bolls."

Before sowing, cotton seeds should be properly processed. If seeds are allowed to absorb water before sowing, sprouting will be promoted. In addition, disinfecting for diseases and insect pests to reduce damage from them can be done. Seeds may also be separated so they may be sown evenly. Thus, an old peasant adage goes:

"Soaking cottonseeds in water and rubbing them with ashes
"Makes them sprout and grow well;
"When cotton seeds are mixed in mud;
"They sprout fast and grow evenly."

Nowadays very great development has taken place in the processing of cottonseeds, as for example the use of a 55-60°C hot water bath treatment, which

forces sprouting of the seeds. Or sulfuric acid may be used to remove the fuzz from the surface of cottonseeds. Another treatment is use of penta-chloronitrobenzene as a germicide in which seeds are mixed to prevent disease. Or furan insecticide may be used to mix the seeds to prevent insect pests, etc. These treatments make for better stands of seedlings when seeds are sown.

Second is knowing when to sow the seeds and giving careful attention to seed sowing techniques to improve seed sowing quality. This is a major technique for good sowing of seeds to insure good stands of seedlings.

Sowing of cottonseeds at the right time has a very important bearing on winning full stands and harvesting a bumper crop. If sown too early when temperatures tend to be low, a long time will be required for sprouting and many nutrients will be wasted. Cotton seedlings will have little vitality and be prone to damage from disease. Stands will be "early but not full." Conversely, if sown too late, though temperatures are high and seedlings sprout fast, stands will be "full but not early," which will be bad for increased cotton yields.

The cotton-growing regions of China cover a wide area from south to north. A look at some old peasant adages shows the best times for sowing cotton in local areas as derived from practical experience, as follows:

"When the date trees bud, cotton should be planted."
(North China).

"When Qingming comes early and Lixia is late, the time of the grain rains [around 20 April] is right for planting cotton." (North China).

"Before the grain rains is the right time for planting cotton; and after the grain rains is the right time for planting beans." (Hebei).

"Before Qingming (around 5 April) is the right time for planting cotton. (Rangyang, Hubei).

"When lotus leaves are as large as a copper cash, cotton is being planted everywhere." (Jiangxi).

"When plowing for millet begins and plowing for flax is finished, following the grain rains is the right time to plant cotton." (Liaoning).

In deciding the time to plant cotton, temperature is most important. This is because when cotton sprouts, complex material changes take place within the seed. If the temperature is right, these material changes occur rapidly, and the cotton sprouts and puts forth seedlings rapidly. Results of scientific experiments and practice in production during recent years show that the right time for sowing cotton is when ground temperature to a

depth of 5 centimeters is stable at 14 to 15°C. In an overwhelming majoring of China's cotton-growing regions, the right time for sowing cotton is from mid to late April. In Chang Jiang basin cotton-growing regions of the south, it may be planted somewhat earlier than this, and in the North, in places such as Liaoning Province, it may be delayed somewhat.

For cotton to sprout, in addition to temperature conditions, it is necessary to consider moisture and air conditions as well. So the specific time when cotton is to be sown in various areas has to be flexibly understood in terms of diverse factors. As an old peasant adage has it:

"When the moisture is there, don't wait for the time;
"When the time has come, don't wait for the moisture."

This means that in cotton-growing regions of north China, sowing has to be done promptly when soil moisture conditions are right. If soil moisture conditions are right several days before the right time, sowing should be done right away without sitting around to wait for the right time. If soil moisture conditions are not good, but the time for sowing has arrived, ways will have to be found to combat drought and begin planting. One cannot wait until it rains and there is soil moisture to begin sowing. In south China's cotton-growing regions, the experience is as follows:

"It is better to sow on a clear day than to sow on a wet day."

Inasmuch as there is much rainfall during the spring in southern cotton-growing areas, frequently the soil contains too much water and ventilation is poor, making the seeds prone to rot. Therefore, their experience tells them that seeds should be sown when the weather is clear; following rains when the soil is wet, it would be better to wait, etc.

"On alkaline soils, which are cold, cotton should be sown around "beginning of summer" [around 5 May].

Saline-alkaline soils warm up fairly slowly, so cotton sowing has to be delayed by about 10 to 15 days later than normal. Only when sown around the time of "beginning of summer" will conditions be right for a full stand.

When sowing, care must be taken with proper sowing techniques to improve sowing quality. Depth of sowing must be right. If sown too deeply at low temperatures when there is little air in the soil, seedlings will have a hard time pushing up through the soil and will emerge poorly. If sown too shallowly, the soil surface will easily dry out and the cotton seeds will find it hard to absorb water, so budding and seedling growth will be hurt. Thus, an old peasant adage says:

"If planted deep, seeds mold; if planted shallow, they dry out."

"One finger deep is too shallow; two fingers deep is too deep; three fingers is too much and the seeds will be suffocated."

Because the weather is often dry with much wind when cotton is sown in the cotton-growing regions of north China, seeds that have been sown shallowly are prone to dry out, so they should be sown somewhat deep. In sandy soils or soils in which surface moisture is poor, seeds should generally be sown to a depth of 4 to 5 centimeters. In clayey soils or soils with good surface moisture conditions, seeds should be sown to a depth of 3 to 4 centimeters. As an old peasant adage says:

"1 cun is shallow and 2 cun is deep; neither shallow nor deep is 1½ cun;

"Plant shallow when wet and deep when dry."

In southern cotton-growing areas where there is much spring rain making the soil rather sticky and heavy, if seeds are planted deep; there will not be enough air in the soil and they will be prone to rot, so a shallow ditch should be dug and seeds covered lightly with soil. Thus, an old peasant adage says:

"Seedlings can grow out from under a cun of soil."

"Shallowly sown seeds will produce harvests year after year, but deeply sown seeds will produce a bad harvest."

When the weather is dry and soil moisture inadequate, seeds must also be sown well to assure full stands. The broad masses of cotton-growing peasants in China have figured out many ways in which to fight drought to plant seeds.

"Deep sowing with shallow covering for a full stand of seedlings."

"One finger deep sowing (in dry soil), two fingers deep for rush sowing, and three fingers or more deep and borrowing soil moisture."

"Deep sowing and shallow covering" requires deep sowing so that the seeds come in contact with moist soil, but with light covering so that once the seeds have absorbed moisture, they will be able to sprout out of the soil quickly. "Borrowing soil moisture" means that after seeds have been sown in drought conditions, they should be covered with moist soil taken from close by to thicken the moist layer of soil, which helps in seed absorption of water and sprouting. The wet seed planting mound developed by cotton-growing peasants in Shandong Province is a good way to fight drought to plant cotton; it should be advocated. The specific way used is as follows: A shallow trench is dug (to a depth of 3 to 4 centimeters), and is filled to the top with water (to

provide soil moisture). Then seeds are sown by hand a certain distance apart, and the soil is mounded over them (to a height of about 2 cun). After most of the cottonseeds have rooted, the mound is pushed over and the soil leveled.

Third is intensification of field care after sowing as a way to assure good sowing to maintain a full stand. Inasmuch as completion of the sowing of seeds does not mean that everything will then go along without a hitch, ways have to be found to hasten the emergence of the cotton seedlings from the soil and to prevent or reduce the number of diseased or dead seedlings, making every effort not only to get a full stand but to get early, strong, full, and even stands of seedlings. China's cotton growing peasants also have had a great amount of experience in techniques for maintaining stands after sowing, as follows:

"If the cotton is wrapped in a sheath, it will never sprout."

By this is meant that should the soil be compacted by rain after the cottonseeds have been planted and the soil become hard as a sheath, it will be very hard for the seedlings to break through the soil, and extremely easy for rotting of buds to occur with no seedlings developing. Therefore, following rains, it is necessary to loosen the soil and break the hard surface at once.

"Gentle hoeing of the cotton, and it will thrive year after year."

"Deep hoeing to increase soil temperature and the cotton will not develop black root."

This means that cottonfields should be cultivated early and frequently to loosen the soil. When the soil contains a fairly large amount of moisture, it should be cultivated more deeply. In this way soil temperature can be increased, the ventilation of the soil improved, the breakdown of soil nutrients accelerated, and both weeds eliminated and diseases and insect pests reduced to promote growth of sturdy seedlings and to reduce the number of dead seedlings.

"If seedlings are replaced when they are small, a harvest can be had, but if seedlings are not replaced, a season is lost."

Ways should be found to replace seedlings that are missing in cottonfields. Replacement of seedlings must be done early and swiftly. The earlier, the less the effect on yields. Early on, resowing can be done; later, seedlings can be transplanted. The seedling transplantation method created by Shanxi labor model, Wu Jichang [702 0679 2490], whereby seedlings with two leaves

are transplanted without any soil on their roots saves both work and water, and has a high survival rate. It is a good way to assure full stands in cottonfields where seedlings are replaced.

"If seedlings press upon each other, no bolls will form;
"Where seedlings are scant, leave more; where seedlings
are dense, leave fewer; if neither scant nor dense,
leave the big ones."

Once the seedlings have emerged, they should be thinned and singled at once so that "seedlings do not press against seedlings," in order to achieve sturdy, full, and even stands of seedlings. The principle underlying thinning and singling of seedlings is that where seedlings are scant, more should be allowed to remain; where seedlings are dense, fewer should be allowed to remain. Generally one should leave sturdy cotton seedlings at a certain distance from each other.

Accompanying the development of scientific techniques and with the support of agriculture by the plastic film industry, new developments have taken place during the past several years in techniques for sowing cotton to maintain full stands. One has been the use of plastic film to cover seedling beds and the transplanting of seedlings that have been propagated. Another is the covering of open fields with plastic film, with the cotton growing directly under the plastic mulch. These are good ways to obtain full, early, sturdy, complete, and even stands of seedlings, and ways in which to increase cotton output remarkably.

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COMMODITY CATEGORIES, PROCUREMENT EXPLAINED

Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 4, 1982
p 45

[Article by Ge Quanlin [5514 3123 2651] and Zhang Xiaonmao [1728 4382 5399],
Ministry of Commerce: "How Are Agricultural and Sideline Products To Be Classified and Their Unified, Assigned, and Negotiated Procurement Done?"]

[Text] The division of agricultural and sideline products into categories, I, II and III, and their unified procurement, assigned procurement, and negotiated procurement are the national management methods for agricultural and sideline products, and the procurement policies currently in effect. In view of the state of development of China's productivity and the degree of importance of various agricultural and sideline products to the national economy and the people's livelihood, in order to have planned control over agricultural and sideline products, to do unified planning with due consideration for all concerned, to arrange industrial production properly, and to meet the needs of the people's livelihood and export trade, the state has divided agricultural and sideline products into three categories for management purposes, and has instituted unified procurement, assignment procurement and negotiated procurement policies.

Grain, cotton, and edible oils, which are agricultural and sideline products of greatest importance to the national economy and the people's livelihood, are classed as category I products, and unified procurement and unified marketing of them is practiced. Flue-cured tobacco, hems, tea, silkworm cocoons, live-stock products, sugar, live hogs, fresh eggs, fruits, major medicinal herbs, major aquatic products, moso bamboo, raw lacquer, and such industrial raw materials, export goods, and items needed in the daily life of the people that are agricultural and sideline products of relatively great importance to the national economy and the people's livelihood are classed in category II, and assigned procurement and marketing in accordance with plan is practiced in their case. All agricultural and sideline products not included in categories I and II are Category III products for which negotiated procurement and negotiated marketing is practiced. In the case of Category I and Category II agricultural and sideline products, the state makes unified plans, sets unified prices, and carries out unified distribution. All procurement, marketing, transfer, import, export, and storage quotas for Category I goods is under the centralized management of the State Council. Category II goods are under the authorized management of

ministries and commissions so entrusted by the State Council. Some products in this category or some quotas are under the centralized management of the state council. The various plans set for Category I and II goods are a major aspect in strengthening of state centralization of the macro-economy, and all jurisdictions and departments must insure their implementation. Active fulfillment of unified procurement and assigned procurement quotas through sales to the state is a glorious duty for which peasants must exert themselves to the full. In order to coordinate the self-determination of production teams, the initiative of peasants, and state economic plans, under the principle of concurrent concern for the country, the collective, and individual interests, it is also necessary to give peasants the right of control over products, within certain limits, in order to stir their enthusiasm for production. Disposal of Category I and Category II products remaining following fulfillment of stipulated base procurement figures or agreement quotas is to be done according to different methods depending on specific circumstances for different varieties of goods. For certain major industrial raw materials in short supply, export goods, and means of agricultural and fishing industry production such as cotton, flue-cured tobacco, moso bamboo, gao bamboo [4643 4554], cowhide and some other livestock products, considering that the country's needs are fairly large and that sources of supply are as yet insufficient, regulations do not permit peasants to sell such goods freely in markets, but rather the state continues to purchase them. Where quantities of goods required for marketing internally or abroad are fairly large, tea being an example, the state will also continue purchases of a certain proportion in order to arrange for internal and external requirements, any remaining amounts being permitted to be sold in markets. Other category II products needed in the daily life of the people are to be handled by the peasants themselves. They may be sold in markets or they may be purchased by the state at negotiated prices and sold at negotiated prices. Purchase prices paid for products remaining following fulfillment of quotas are allowed to fluctuate within certain limitations in accordance with the market supply and demand situation. Category II products are managed locally, and in accordance with State Council programs and policies they are to be purchased and marketed well and briskly. For a small number of important varieties of Category III products, in order to insure special export needs and the needs of large cities, management methods used for Category III products may be applied in order to control a certain source of supply. Specific varieties and methods to be used are to be decided by provincial, municipal, and autonomous region governments.

Many years practice has shown that the division of agricultural and sideline products into categories I, II, and III, and the institution of unified purchase, assigned purchase, and negotiated purchase as basic policies has been effective and in accordance with China's actual circumstances. It embodies the principle of taking the planned economy as the key link with market regulation playing a supplementary role, and plays a major role in promotion of production, in insuring needs, in stabilizing markets, and in stabilizing prices.

As the country's national economy readjusts, agricultural production develops, and agricultural and sideline products increase, specific policies and management methods for procurement of agricultural and sideline products must also conform to changes in production and marketing. Designation of specific varieties of goods as Category I, II or III will have to be properly readjusted on the basis of different circumstances for each variety.

Supplement: Current List of Category I and II Agricultural and Sideline Products

Category I: Grain, cotton, edible oils, and lumber.

Category II: Varieties of goods for which the Supply and Marketing Administration is responsible: Jute and ambari hemp, China grass, flue-cured tobacco, wool, sheepskins, xiao hu [1420 3275] sheepskin, kidskin, feathers, hog casings, pig bristles, mulberry silkworm cocoons, tussah silk cocoons, tea, fine quality sun-cured tobacco, grass mats, coir mats, bamboo, hao bamboo [4643 4554], citrus fruit, handmade paper, honey, raw lacquer, apples, tree fungus, star anise, kid leather, goat hair, sheep casings, red dates, hot pickled mustard tuber, day lily, rush mats, charcoal, draft animals, hemp, goat casings. 2. Varieties of goods managed by the Ministry of Commerce: Live hogs, beef cattle, carcass-type sheep, fresh eggs. 3. Varieties of goods for which the Ministry of Forestry is responsible: Resin yuanjiao [0626 5231]. 4. Varieties of goods for which the Aquatic Products Administration is responsible: Large yellow croaker, small yellow croaker, hairtail, cuttlefish, butterfish, pomfret, conger pike, herring, slate cod croaker, flounder, prawns, abalone, sharkfins, fish maw, beche-de-mer, scallops, dried shrimp, small dried shrimp, squid, and jellyfish. 5. Varieties of goods for which the Ministry of Food is responsible: Tung oil, castor oil, wood oil, Chinese tallow tree oil, and catalpa oil. 6. Varieties of goods for which the Ministry of Foreign Trade is responsible: Peppermint oil and citronella oil. 7. Varieties of goods for which the State Pharmaceutical Administration is responsible (including Category II and costly medicinal materials): Musk, Pesoar, the rhizome of Chinese goldthread [*Coptis chinensis*], the bulb of fritillary [*Fritillaria thunbergii*], licorice, Chinese wolfberry [*Lycium chinense*], Chinese yam, yuanhu [0337 3275], the bark of eucommia [*Eucommia ulmoides*], taro pulp, yinhua [6892 6363], safflower, ginseng (including yeshan ginseng), dangshen [*codonopsis pilosula*], Chinese angelica herb, chuanxiong [*Conioselinum unvittatum Turcz.*], the dried rhizome of rehmannia [*Rehmannia glutinosa*], *Atractylis ovata* Thunb, peeled root of herbaceous peony [*Paeonia albiflora*], tuckahoe [*Poris cocos*], the tuber of dwarf lilyturf [*Ophiopogon japonicus*], monkshood, *Aucklandia lappa*, root of bidentate achyranthes [*Achyranthes bidentata*], root of Zhejiang figwort, root bark of the tree peony [*Scrophularia ningpoensis Hemsl.*], sanai-ginseng [*Panax pseudo-ginseng*], pilose antler tonic, root of membranous milk vetch [*Astragalus membranaceus*], chrysanthemum flower, bark of official magnolia officinalis, tuber of elevated gastrodia [*Gastrodia elata*], sharen [4263 0088] [*Hedychium Coronarium*], Chongcao [5722 5430], tiger bone pills, leopard bone pills, bear gall bladder, Quanchong [0356 5722, Chinese cassia, *Aquilaria agallocha*, *Bufo vulgaris*, *Bacopa monniera*, asses' glue, rhinoceros indicus, guangjiao [1684 6037], antelope's horn, frankincense, myrrh, dragon's blood [*calamus craco*], sandalwood, gongdingxiang [*Jambosa caryophyllus*], and xihonghua [6007 4767 5363]. 8. Varieties of goods for which the Ministry of Light Industry is responsible: sugarcane and sugarbeets.

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FOOD, FERMENTATION INDUSTRIES CLASSIFICATION SYSTEM SUGGESTED

Beijing SHIPIN YU FAJIAO GONGYE [FOOD AND FERMENTATION INDUSTRIES] in Chinese
No 2, 1982 pp 86-89

[Article by Qin Hanzhang [4440 0698 4545]: "Suggestions Concerning Classification of Food Industry in China With Appendix on Classification of Fermentation Industries (Classified Chiefly on Basis of Sources of Raw Materials)]

[Text] First, Agricultural Product Food Industries

(1) Grain Industry

For example:

1. Hull rice
2. Milled rice
3. Flour
4. Starch
5. Potato starch
6. Lotus root starch
7. Bread
8. Crackers
9. Maltose (Malt sugar), starch sugar (glucose), grape syrup (isomeric syrup)
10. Gluten, oleaginous buckwheat gluten
11. Sesame seed cakes
12. Oatmeal
13. Sliced tubers

14. Malt
15. Caramels
16. Pastries, cakes and sweetmeats
17. Pulse processing (soybean paste, soybean starch, beancurd, thin sheets of beancurd, (dried bean milk cream in tight rolls), dried beancurd, fried beancurd, pressed beancurd sheets, mung bean vermicelli, sheet jelly made from bean or sweet potato starch)
18. Other (macaroni, puffed foods)

(2) Fats and Oils Industry

For example:

1. Pressed oils
2. Refined oils
3. Peanut butter, sesame paste
4. Margarine
5. Other

(3) Beverage crop processing

For example:

1. Tea industry (black tea, green tea, scented tea, brick tea, oolong tea)
2. Coffee roasting
3. Cocoa manufacture
4. Hops drying and smoking (beer hops)
5. Other

(4) Sugar crop processing

For example:

1. Sugar manufacturing industry (brown sugar, white sugar, granulated sugar, syrup, waste molasses)
2. Sugar refining industry (refined sugar, cube sugar)
3. Chocolate and gum manufacturing

4. Common candy manufacture

5. Other

(5) Condiment crop processing

For example:

1. Chili pepper processing (dried chilies, chili powder)

2. Fennel processing (fennel extract, fennel oil)

3. Clove processing (clove oil)

4. Fresh ginger processing (dried fresh ginger, fresh ginger extract, candied ginger)

5. Garlic processing (sugared garlic, salted garlic, pickled garlic, garlic heads, garlic powder)

6. Curry powder

7. Black pepper

8. Mustard, hot mustard sauce

9. Cassia bark, cinnamon powder, cinnamon oil

10. Nutmeg, mace

11. Other

(6) Medicinal crop processing

For example:

1. Peppermint processing

2. Ginseng processing

3. Chinese angelica processing

4. Eucalyptus extracting (cough syrup)

5. Other

(7) Tobacco crop processing

For example:

1. Cigarette industry

2. Water pipe tobacco
3. Plug tobacco
4. Shredded tobacco
5. Snuff
6. Cut tobacco
7. Cigar tobacco
8. Asthma tobacco
9. Other

Second, Orchard and Garden Product Food Industry

For example:

1. Fruit juice (including grape juice, fresh orange juice, lemon juice, etc.)
2. Syrup
3. Jelly, pectin
4. Marmalade
5. Jam
6. Dried fruit
7. Salted vegetables
8. Vegetables pickled in soy sauce
9. Pickled vegetables
10. Pickled Chinese cabbage
11. Dried vegetables
12. Preserved fruit
13. Dried flowers (lily buds, roses, daidaihua [7818 7818 5363], jasmine flowers, etc.)
14. Honeyed flowers (honeyed roses, honeyed sweet-scented osmanthus)
15. Other

Third, Livestock Products Food Industries

(1) Slaughterhouses

1. Livestock butchering
2. Livestock butchering

(2) Egg processing

1. Fresh eggs, frozen eggs
2. Egg powder (protein powder, egg yolk powder, whole egg powder)
3. Preserved eggs (1,000 year old eggs)
4. Salted eggs
5. Pickled eggs

(3) Meat processing

For example:

1. Frozen meat
2. Smoked meat
3. Salted meat, cured meat
4. Ham
5. Sausage, cured hog tripe
6. Air aged chicken, pressed duck
7. Lard, beef fat (including other animal fats and oils used as food)
8. Meat broth
9. Pork floss
10. Stewed chicken livers, stewed duck livers
11. Dried beef cooked with five spices powder
12. Other

(4) Dairy product processing

For example:

1. Milk (bottled milk, pasteurized milk, whole milk)
2. Butter
3. Butter fat (cream)
4. Ice cream and ice cream powder
5. Cheese
6. Condensed milk
7. Milk powder
8. Casein
9. Lactose
10. Whey powder
11. Sour milk
12. Kumiss (cow kumiss, horse kumiss, camel kumiss)
13. Skimmed milk
14. Other

Fourth, Forest Products Food Industry

For example:

1. Maple sugar
2. White pine syrup
3. Pine nuts
4. Chinese toon [*Toona sinensis*]
5. Mushrooms
6. Wood fungus
7. Bamboo shoots (dried slices of tender bamboo shoots, bamboo tips)
8. Other

Five, Aquatic Products Food Industry

- (1) Breeding
- (2) Catching
- (3) Processing

For example:

- 1. Water shield
 - 2. Water chestnut powder
 - 3. Agar-agar (edible seaweed) (toufa cai [7333 4099 5475], laver, siliquose pelvetia)
 - 4. Jellyfish
 - 5. Kelp
 - 6. Beche-de-mer
 - 7. Fish oil, fish liver oil
 - 8. Sharkfins
 - 9. Whitebait
 - 10. Frozen fish
 - 11. Salted fish
 - 12. Small dried shrimp
 - 13. Lobster, shrimp (prawns)
 - 14. Crabmeat
 - 15. Scallops
 - 16. Agar agar
 - 17. Other
- (4) Edible salt manufacturing (or salt making industry)

For example:

(1) Salt manufacturing

1. Sea salt
2. Well salt
3. Lake salt

(2) Salt refining

1. Refined salt
2. By-products

Sixth, Insect Products Food Industry

For example:

1. Honey
2. Beeswax
3. Royal jelly
4. Other (Silkworm chrysalis protein)

Seventh, Fermentation Industries (including distilling industries)

For example:

1. Soy sauce
2. Vinegar
3. Shaoxing wine (pressed wine)
4. Gaoliang liquor (distilled liquor)
5. Beer
6. Grape wines and other related fruit wines (pressed wines)
7. Apple wines
8. Foreign alcoholic beverages, sweet wines, and associated liqueurs (distilled liquors)
9. Sweet paste [3929 6830]
10. Lactic acid

11. Citric acid
12. Monosodium glutamate (MSG) and other amino acids
13. Enzymes (protease, amylase, isoamylase, stable isomerase, glucose oxidase, tannase, etc.)
14. Yeasts (pressed yeast, active dry yeast, brewers yeast, wine yeast, medicinal yeast, livestock feed yeast)
15. Alcohol industry
16. Other (Yeast for brewing wine or fermenting glutinous rice, fuqu [1133 2575], yeast for making hard liquor)

Eight, Food Storage Industry

For example:

1. Canned storage (canned goods)
2. Dry storage
3. Cold storage
4. Warehouse storage
5. Cellar storage
6. Pickling
7. Other

Ninth, Beverages and Cold Drinks Industry

For example:

1. Running water
2. Mineral water
3. Soda water
4. Other cold beverages (such as Coca Cola, malt or milk extract, sour plum concentrate, etc.)

Tenth, Vitamin Industry, Special Dietary Foods Industry

For example:

1. All kinds of eatable vitamins (multi-vitamin pills, single vitamin pills)

2. Baby foods
3. Old people's foods
4. Athlete's foods
5. Curative foods
6. Spaceflight foods
7. Convenience foods
8. Other

Appendix:

Problems of Specialized Composition of Fermentation Industry

The technical characteristics of the fermentation industry most readily reflect the level of modern scientific advance. For the most part, they are chemical products and light industrial products obtained from fermentation carried out by micro-organisms.

The fermentation industry is best delineated in terms of the products of each industry.

Fermentation industry products may be generally divided into the following 10 categories:

1. Alcoholic beverages, alcohols, and solvents

Alcoholic beverages (including beer, yellow rice or millet wine, white spirits, cordials, wines, brandies, whiskeys, vodka, and various medicinal wines)

Ethanol (alcohol), butanol, acetone, glycerine, fusel oil.

2. Organic acids

Citric acid, lactic acid, acetic acid, tartaric acid (a by-product of wineries), fumaric acid, itaconic acid, gluconic acid.

3. Yeasts

Bread yeast, dietary yeast, medicinal yeast, livestock feed yeast

4. Amino acids

Monosodium glutamate (MSG), lysine, proteic acid, tryptophan, and other amino acids.

5. Antibiotics

Penicillin, aureomycin, streptomycin, neomycin, tetracycline, griseofulvin, bacitracin, tyrothricin.

6. Vitamins and growth hormones

L-ascorbic acid, cyano-cobalamin (vitamin B-12), riboflavin, biotin.

7. Enzymes

Takadiastase, amylase, protease, cellulose ester, pectinase, glucose oxidase, isomylase, stable isomerase, tannase, etc.

8. Polymers

Dextran (polydextran) and other polysaccharides

9. Fermented foods

Soy sauce, soy paste, beancurd milk, cheese, hot pickled mustard tuber [preserved Sichuan vegetable], pickled vegetables, etc.

10. Other

Diacetyl, dihydroxyacetone, anti-filtrable virus vaccine, ephedrine, ergotine, steroids, ribonucleotides.

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CSO: 4007/509

PROVINCIAL NOTICE ISSUED ON 'THREE SUMMER JOBS'

Lanzhou GANSU RIBAO in Chinese 13 Jun 82 p 1

[Article: "Provincial People's Government Issues Notice Requiring All Jurisdictions to Base Themselves on Prevention of and Combat Against Calamaties To Do the 'Three Summer Jobs' of Production Well"]

[Text] On 10 June the provincial people's government issued a notice requiring all jurisdictions to base themselves on the prevention of and combat against calamities to do the "three summer jobs" [planting, harvesting, and field management] well.

The notice said that now that "grain in ear" [around 6 June] has passed, the busy season of the "three summer jobs" has progressed steadily from south to north throughout the province. Meteorology departments have forecast uneven distribution of rainfall throughout the province with the possibility of summer drought between July and September. Some places may suffer torrential rain or hailstone disasters, and mountain floods may be more numerous than in former years. All jurisdictions should base themselves on prevention of and combat against disasters to do a solid job of summer harvesting, summer planting, summer management and hot weather cultivation of the fields.

The provincial government has recommended that all activities in summer production center around the drought, waterlogging, hailstone, flood, crop disease and insect pest disasters that have already occurred or may occur. They should make multiple preparations and establish several lines of defense ideologically, organizationally, and materially to produce results link by link. Vigorous measures should be taken to defend against possible summer drought. Repair of ditches and the maintenance and repair of irrigation facilities and rural electric power lines should be taken firmly in hand, and fuel for machinery made ready so as to be able to combat drought when it occurs. Irrigation areas are to institute centralized management and handle matters strictly in accordance with regulations, make equitable use of water and conserve use of water so as to be able to irrigate more fields better. In addition to actively fighting against drought, conscientious work to protect against floods and high water also has to be done. Wheat, oil-bearing crops, and beans in summer fields should be harvested just as soon as they are ripe and hauled away as they are harvested to guard against fire, theft or molding in rainy and overcast weather, and to assure their

safety. The masses are to be stimulated and organized to select and retain seeds. Places in which the sowing of summer crops did not fulfill plan, or places in which the harvest has not been good are to do everything possible, depending on local realities, to expand the area sown for the fall and multiple cropping plans. Where it is too late to sow grain, urgent action should be taken to plant vegetables, grass, green manure, planting them early, in large quantities, and well.

All out efforts are to be made in working and managing late ripening summer crops and fall crops, making sure that "until a bumper harvest is in hand, there will be no slackening of care." Account should be taken of the growth situation of different crops to inspect seedlings promptly and add seedlings where required, to hoe out weeds and loosen the earth, to provide topdressings of fertilizer, to irrigate at the right times, to control diseases and insect pests and such jobs as a means of upgrading the "three categories of seedlings," to prevent green drying and lodging of wheat, to increase the per thousand grain weight of wheat, and to improve quantity and quality of wheat. Opportunity should be seized to do a good job of summer plowing. "Summer plowing is like burning oil" has been a tradition in Gansu Province. Successful measures for combating drought to increase yields should be given attention everywhere, early preparations being made, and deep, careful, and much plowing done. Where conditions permit, floodwaters should be diverted to flow over the land.

The notice pointed out that responsibilities are great and time is short for doing the "three summer jobs." All levels of the people's government and all departments concerned, particularly leaders in prefectures and counties are to treat it as a central task that comes before all others in rural villages at the present time. Leaders are to go down into the frontlines to solve problems promptly. Commune and brigade cadres are to stand fast at their posts. Cadres and farm technicians are to be organized into work teams to give on the spot direction to peasants and to explain technical farming knowledge in terms of actual situations being faced. Commercial, supply and marketing, industrial and transportation, materials, and banking units are to actively organize the allocation and transportation of materials for the "three summer jobs," and to do a good job in the supply of chemical fertilizers, fuels, electric power for agricultural use, farm implements, and fine varieties, and the issuance of loans for agricultural use.

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CSO: 4007/473

INCREASED PRODUCTION OF AQUATIC PRODUCTS STRESSED

Policy Measures

Guangzhou NANFANG RIBAO in Chinese 17 Jun 82 pp 1, 2

[Text] The Guangdong Provincial People's Government recently convened a provincial aquatic products breeding work conference at Foshan City to transmit and put into effect the spirit of the national freshwater fishing industry work conference, to summarize and exchange experiences in the province's aquatic products breeding work, and to study and enact policies and regulations on hastening freshwater breeding and the revival and development of marine breeding.

Guangdong Province CCP Committee member and director of the Provincial Agricultural Commission, Du Ruizhi [2629 3843 5347], presided over the conference and made a summarization. Guangdong Provincial Governor Liu Tianfu [0491 3944 1133] gave a speech at the conference.

Participants in the conference included deputy commissioners (or deputy mayors) of all prefectures (or municipalities) and comrades in charge at the Agricultural Office, the Aquatic Products Bureau, and the Hydroelectric Bureau, as well as deputy county heads (or deputy mayors) of each county (or municipality), and representatives of departments concerned under direct provincial jurisdiction. The conference was divided into two phases for discussion of freshwater breeding and marine breeding.

The conference agreed that since the Third Plenary Session of the 11th Party Central Committee, Guangdong Province has won remarkable achievements in aquatic products breeding work from diligent implementation of the CCP Central Committee's and the provincial government's "Decisions on Vigorous Development of the Aquatic Products Breeding Industry." In the course of 3 years the freshwater fishing industry has taken three giant strides. Between 1979 and 1981, it averaged an annual increase in production of more than 18,600 tons, an annual incremental increase of 8.8 percent. Within 3 years marine breeding area was increased by 53 percent and output rose fairly rapidly once again, increasing by 18 percent over 1979. However, current speed of development of the aquatic products breeding industry is still a long way from meeting the needs of the people's livelihood, and falls far short of the province's superior natural conditions. Continued efforts

must be made. Acting on the basis of the annual freshwater fish output of 4 to 5 million tons, which is the target to be achieved by the end of the 1980's put forward by the CCP Central Committee, in combination with actualities in the province, the conference formulated a plan for the province's development of aquatic products breeding as follows: achievement by 1990 of an annual output of 510,000 tons of freshwater fish, an annual incremental increase of 8.9 percent, and an annual output of 16,000 tons of marine bred aquatic products by 1985, more than double the output of 1980.

During the conference, delegates focused attention on the problem of how to hasten the breeding of aquatic products, diligently summarized and exchanged advanced experiences, and acknowledged that the future freshwater fishing industry development program should mobilize all forces, make use of all kinds of water surfaces, strive to increase quantities and quality, and institute a combination of breeding, increased breeding, raising, and catching, with breeding being paramount. During the short run, major emphasis should be given the crucially important pond raising of fish with development and use of mountain ponds, reservoirs, and rivers for the raising of fish, and the promotion of the raising of fish in ricefields for gradual increased breeding of river resources, with support to commune members in the use of scattered water surfaces for the development of the household raising of fish to make full use of the potential of large and small water surface resources. The conference emphasized, in the development of aquatic product breeding industries, the need for adherence to the promotion and perfection of various forms of specialized contracting responsibility systems, to permit and protect individuals, organization, industrial plants, entrepreneurial units and social groups in individual or collective use of funds under centralized planning for jointly managed breeding enterprises in vigorous development of large and medium size city and suburban raising of fish. The conference emphasized mobilization and organization of manpower, material, and financial resources from every quarter of society to solve the problem of funds for development and use of resources. In addition, serious attention should be given promotion of multiple measures for the raising of fish that interrelate the fishing industry, livestock raising, and agriculture, to emulating Gaoyao County's all out efforts with various forms of joint operations for the development of the fishing industry and the livestock industry, as well as Doumen, Sanshui, and Xinhui counties' experiences in combining improvement of farmland with the raising of fish, the raising of livestock and poultry, and farming to build a fine ecocycle system, the better to obtain benefits from multiple operations.

The conference noted that under present circumstances wherein inshore resources have been damaged while the broad marine coastal shallows have not yet been put to use, the fishing industry in all places must resolutely overcome tendencies toward, "emphasizing catching and slighting breeding," and implement a program of simultaneous emphasis on catching and breeding for active development of marine breeding. It is necessary, first of all, to implement and consolidate, with all possible speed, utilization rights to marine coastal shallows, to safeguard a stable production order, to put to use with all possible speed shallows not yet in use and, along with an

expansion of the area, to take a path of development that links the long range and the short range, using the short range to nurture the long range, and going from extensive to intensive raising of aquatic products. Hastening development of marine shallows and use of coastal fishing grounds requires further emancipation of the mentality and liberalization of policies. In addition to state owned or collective operations or joint operations, a free hand might be given to various forms such as use of individual funds or use of group funds in contracting of operations as a means of stirring the enthusiasm of all parties. In existing state owned breeding grounds, a program must be put in place of "one industry primarily, with economic diversification and multiple use," efforts made to increase economic benefits and to make the most of the role of demonstrations by mainstay cadres, giving support to communes, brigades and commune members in skills, funds, and the breeding of fry [or larvae] so that marine breeding will be undertaken by the state, collectives, and individuals together.

Commentary on Spurring Development

Guangzhou NANFANG RIBAO in Chinese 17 Jun 82 p 1

[Text] The Guangdong Provincial People's Government recently convened a provincial work conference on aquatic products breeding, which acted on the basis of national plans and concrete conditions existing within the province to formulate guidelines for the province during the 1980's including an annual 8.9 percent incremental increase in freshwater aquatic products output, and a doubling within 5 years of marine breeding output. It also put forward corresponding programs, policies, and measures. This plan both meets the needs of the country and the people, and is also founded on favorable objective conditions. It is workable and can be achieved with effort. It is hoped that all levels of party and government organization will conscientiously carry it into effect.

Development of an aquatic products breeding industry relates to the large issues of full and rational use of natural resources, to in breadth and in depth progress in agricultural production, and to bringing into being a benign agricultural ecocycle. Modern large scale agriculture consists of the all around development of multiple activities in farming, forestry, animal husbandry, sideline occupations, and fisheries. Only by putting mountains, waters, and fields to use can great increases in commodity production be realized to satisfy market needs and to make sensible changes in people's diet. Additionally, only in this way can the rural economy flourish and outstanding increases take place in collective and individual earnings so that the broad masses of peasants can become prosperous with all possible speed. It is from the strategic height of building and developing large scale modern agriculture that we must understand the importance of accelerated development of aquatic product enterprises, and give the same serious attention to utilization of every tract of water surfaces that we give the farming of every mu of cultivated land.

Guangdong Province has a very long coastline, and rivers traverse the land. More than 10 million mu of water surfaces are available for use providing a vast area for development of aquatic products breeding. However, practice has demonstrated that if these water surfaces are to be developed rapidly for use and outputs of fish increased, sole reliance on state-owned fisheries and specialized communes and brigades will not work. The masses in their millions must be aroused and relied upon, with state-owned enterprises, collectives, and individuals going forward together to carry out a guiding mentality of "mobilization of forces in every quarter," and arousing positive elements everywhere. This is to say that while operating state-owned aquatic products breeding grounds, communes, brigades, and commune member households have to be aroused for active development of the aquatic products breeding industry. It is necessary, as well, to encourage government organizations, groups, industrial enterprises and such social forces to act on the principles of voluntary participation and mutual benefit and equitable division of benefits, those having money investing money, those having materials investing materials, and those having skills investing skills, pooling the wisdom and efforts of everyone to join in aquatic products breeding enterprises. Only in this way will it be possible to win success in fairly rapid development of the province's aquatic products enterprises.

In order to truly carry into effect a guiding mentality of "mobilization of forces in all quarters" for development of aquatic products endeavors, it is necessary to propagandize with great fanfare the necessity and the correctness of so doing so that the broad masses of peasants and elements in society concerned will give active support. It must be clearly announced that individuals, government organizations, industrial plants, enterprises, entrepreneurial units and social groups may, under centralized management and after going through legal procedures, use their own funds collective funds for operations, or carry out joint operation of fishing industries, the rights of both investors and operators being guaranteed by law. During recent years in some places in Guangdong Province instances of economic units with different systems of ownership using diverse forms of joint development and operation of aquatic product hatching industries have taken place (such as industrial plants and production teams, state-owned commercial units and communes or brigades, and government organizations or groups and farms). These have achieved very good economic results, have increased commune, brigade, and farm earnings, and have improved supply of nonstaple foods to industrial plants and government organizations and groups. Otherwise unused water surfaces have also been put to use. Such methods are very inspiring and should be encouraged and given support.

For various historical reasons, utilization rights for most of the marine shallows of Guangdong Province have never been clearly defined, with the result that disputes can easily occur that seriously impair production order and are bad for arousal of enthusiasm for production of all quarters. Consequently, active and dependable implementation of utilization rights for these shallows is a fundamental task, and also a priority one. It is hoped that all jurisdictions will place it on their daily agenda of important

things to do and organize forces for commune by commune and brigade by brigade implementation, seeking to complete the task within 1 or 2 years in accordance with plans drawn by this provincial work conference on aquatic products breeding. Predictably places that most quickly institute utilization rights to shallows in accordance with policies will be the ones most quickly to see the dawn of an aquatic products breeding industry.

Fishpond output in Guangdong Province is very unbalanced. Prefectures with fairly high yields get more than 400 jin per mu; low yield prefectures get only 100 jin or so. Such a difference demonstrates clearly that promotion of advanced fish raising techniques and administrative and management methods, and encouragement of scientific raising of fish are important ways in which to increase fish output fairly rapidly. Efforts of this kind hold great promise, and we must take account of realities in each prefecture, and come to grips with the major contradictions in them. Right now one-third of the province's fish ponds are shallow (a water depth of less than 1 meter), leaky, or small. We must improve them little by little over a period of time so that they become consistently high producing ponds. We must take account of the decline of certain fish varieties and adapt general methods to local situations for the promotion of new varieties (such as wealth and longlife fish [4395 1108 7625], and actively conduct experiments with new kinds of fry [or larvae]. Supplies of large quantities of good quality mixed feeds are a prerequisite for large scale breeding of aquatic products, and party and government leadership organizations should organize departments concerned to study and produce such feeds. For many years many places in the province have practiced a combination of fishing, raising and hog raising, the raising of chickens, ducks, and geese, and the growing of mulberry and sugarcane for continuous production, which has helped maintain agriculture's ecological balance and has provided feed, making the aquatic products breeding industry and other breeding industries mutually supportive. Such scientific methods should be spread through the adaptation of general methods to local situations.

In short, we have to mobilize forces in all quarters, make full use of all kinds of water surfaces, promote scientific techniques, encourage multiple operations, and speed economic effectiveness. In this way we will definitely be able to make larger and more rapid strides in development of the province's aquatic products breeding industry in accordance with requirements of central authorities.

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CSO: 4007/477

COUNTY SUMMER WHEAT OUTPUT UP BY 50 PERCENT

Shijiazhuang HEBEI RIBAO in Chinese 5 Jul 82 p 1

[Article: "Jize County Total Summer Output Up 50 Percent Over Last Year. Implementation of Policies Provides Reassurance and Encourages Efforts; Scientific Farming Advances Increased Yields"]

[Text] Jize County, whose wheat production has always been very low, last year produced a total of 60 million jin from 192,000 mu, a better than 50 percent increase over last year, yields per unit of area reaching an all-time high. Every one of the 10 communes in the county had increased yields.

One major experience enabling Jize County to reap a bumper harvest this year despite numerous disasters was that the County CCP Committee and government took firmly in hand the consolidation and perfection of agricultural production responsibility systems, clearly publicizing no change in the already established various forms of production systems. The broad masses of commune members ceased to worry and courageously contributed money for the purchase of chemical fertilizer, machines, and tools for the development of productivity and to provide material conditions for increases in wheat yields. In addition, this county promoted fine varieties, increased fertilization with phosphate, and watering to combat drought better than in former years. The growing of Taiyi, Taiwu, Pinsanjiu, and Jimai Ershisan fine wheat varieties, which are suited to local soil conditions, was spread virtually everywhere in the county, and fertilization with phosphate was increased from the former 17 to 60 jin per mu, the soil's serious phosphate deficiency thereby being corrected. By sinking more pump wells and refitting deep well pumps, the irrigated area was enlarged by 30,000 mu making possible an increase by one or two waterings and as many as nine during the wheat's growing season.

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CSO: 4007/496

PREFECTURE ORGANIZES FOR BUMPER GRAIN HARVEST

Shijiazhuang HEBEI RIBAO in Chinese 17 Jul 82 p 1

[Article: "Hengshui Prefecture Studies Formulation of Measures to Win Bumper Fall Harvest. Centers on Perfection of Responsibility Systems to Solve Problems in Production Relationships"]

[Text] Between 3 and 6 July, the Hengshui Prefecture CCP Committee and government administrative offices convened a conference of commune secretaries from throughout the prefecture. After summarizing experiences in harvesting a bumper summer crop, they studied and acted on the problem of how to redouble efforts to win an all around bumper fall harvest.

The conference agreed that in order to win a bumper fall harvest, attention will have to center on further improvements in the production responsibility system for the fall to make full use of the enthusiasm of collectives and commune members. First, summer contract agreements will have to be resolutely honored while at the same time fall contract agreements will have to be signed. There can be no shillyshallying. Second is doing a further good job management responsibility systems for pump wells, drainage and irrigation machines, and major water conservancy facilities. One-fourth of the prefecture still has no responsibility system for pump wells, and this is where the potential for combat against disaster to win a bumper harvest lies. No matter the form of responsibility system practiced, wells and machines are to be under the centralized management of production brigades or production teams. Third is establishment of an insect eradication responsibility system for centralized formulation of pesticides, for taking unified action at a given time, and for household by household elimination. Fourth is doing a good job of responsibility systems for drainage of waterlogging and prevention of floods.

While further perfecting various kinds of responsibility systems, this prefecture has also emphasized attention to key fields and key crops. The prefecture has more than 3 million mu of irrigated land for which the increased yield potential is very great. These are key fields for the winning of an all around bumper fall harvest. The prefecture has more than 5 million mu of fall grain crops, more than 3 million mu of which is corn. These are key fall grain crops for which the increased yield potential is very great. In this

connection, the prefecture decided to give strict attention to key fields, appointing people responsible for them at every level in the institution of a system of individual responsibility. All communes have adopted a system whereby leading members of its CCP Committee are responsible for certain tracts, whereby regular cadres are responsible for certain villages, whereby production brigade cadres are responsible for certain production teams, and whereby production team cadres are responsible for certain households in a level by level distribution of responsibility. Responsibility for key fields and key crops is apportioned to individuals, and is fixed through the use of rewards and penalties, and the use of agreements. All communes and brigades are to widerangingly arouse the masses to formulate measures for increasing yields of key fields and key crops, to concentrate water and manure, to give painstaking care, to do scientific farming, and to use every available means to win high yields. In addition, key fields are to be used for demonstration purposes to spur on the farming of ordinary fields for all around increases in yields. This prefecture has also made one of its major actions assistance to hardship production teams and hardship households in doing production to win a bumper fall harvest. It has required CCP committees and governments at all levels to place on their daily agendas help to the poor and assistance to those suffering hardships, with regular study, and persons designated responsible. Communes have directed attention to hardship production teams, and cadres, party members, and members of the Communist Youth League have been assigned to look after the families of revolutionary martyrs and servicemen and hardship households with many members but few workers or those who do not understand techniques and cannot make a living, helping them formulate measures to increase yields, teaching them farming techniques, and giving them needed support with workers, fertilizer, pesticides, and funds to solve various real difficulties.

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CSO: 4007/520

PREFECTURE'S EFFORTS IN FACE OF MULTIPLE NATURAL DISASTERS OUTLINED

Shijiazhuang HEBEI RIBAO in Chinese 16 Jul 82 p 1

[Article: "Shijiazhuang Prefecture Strives to Win Bumper Fall Harvest in Agriculture. No Dejection When Disasters Strike, Measures Keeping Apace"]

[Text] In view of various natural disasters that have taken place, the Shijiazhuang Prefecture CCP Committee and government administrative offices has undertaken indoctrination of the broad masses of cadres and people in the prefecture on "man can conquer nature" to stir the people to stubborn struggle to conquer disasters and win a bumper fall harvest in agriculture.

During the first half of this year, agricultural production in Shijiazhuang Prefecture has sustained serious natural disasters including low temperatures, drought, hot dry winds, diseases and insect pests, and hailstones, which have reduced summer grain yields and have occasioned quite a few hardships for the winning of a bumper fall harvest. The Prefecture CCP Committee and government administrative offices promptly convened a prefecture wide agricultural work conference to analyze the disaster situation and to summarize the lessons of experience over the years in combating disasters to win bumper harvests. They mobilized people throughout the prefecture to resolutely fight to victory in the struggle against disasters to win a bumper harvest. Comrades attending the conference diligently analyzed the various favorable factors: First, as a result of further perfection of various forms of responsibility systems, the sentiments of cadres and masses are stable and zeal for combating disasters to win a fall harvest is very high. Second, for the past several years fall crop output has tended to increase steadily, and both cadres and the masses have accumulated experiences in winning a bumper fall harvest. Third, autumn grain production for the prefecture as a whole is very unbalanced and a great potential exists. Fourth a good basis exists for production this fall: the wheat has ripened early; fall sowing of grain has been 6 or 7 days earlier than in most years; and material conditions are also better than in former years. Despite the large area of hailstone damage, the time of the disaster was fairly early, so the situation can be reversed with effort, and confidence increased in being able to win a bumper fall harvest through hard work. After the conference, each county convened three cadre conferences in which a look back at the past and summarization of the lessons of experience were used as methods to stir the fighting will of cadres and the masses.

Simultaneous with indoctrination of the people of the entire prefecture in "man can conquer nature," the CCP Committee and government administrative offices proposed four key measures for winning a bumper fall harvest as follows:

1. Attention to medium and low yield areas for even increases in yields. Five counties in the prefecture including Zhengding and Wuji have grain fields with fall yields of 500 jin per mu, but nine counties produce yields that are lower than the prefecture average yields per mu, the lowest county having yields of only 283 jin per mu. The Prefecture CCP Committee and government administrative offices have given practical assistance to these medium and low yield counties in studying the formulation of measures to increase yields, and to catch up with and overtake advanced levels. They are working to obtain yields of 550 jin or more per mu from the prefecture's 3.5 million mu of cornfields for an output totaling 2 billion jin.
2. Spurring high yields from areas in which disasters were slight, using bumper production to offset lean production. In Lioncheng and Huolu counties, natural disasters were relatively light and the Prefecture CCP Committee has called upon them to increase their grain production. Now these counties are taking effective measures in an effort to produce more, carrying the responsibility for the whole prefecture.
3. Strict attention to production of grains other than wheat and rice, using every available means to grow and harvest more. Particular attention has been devoted to potatoes and millet as key crops. The "10 besides" [beside villages, streams, fields, houses, roads, etc.], odd bits of land, and every place that can be sown have been fully planted in an effort to increase the harvest somewhat.
4. Economic diversification centering on cotton has been launched. The prefecture's cotton was fairly hard hit, and each county has taken the measures appropriate to different kinds of cottonfields. Where it had to be destroyed, it was destroyed; where it should be intercropped, it was intercropped, and what remained was given increased care in an effort to insure that there would be no reduction in total cotton output for the prefecture as a whole. In addition, everywhere both the collective and individual commune members worked together using every available resource to expand production avenues and to develop economic diversification that would produce fast results and large benefits in an effort to realize a 100 million yuan increase over last year in total earnings from agriculture, and average per capita earnings of 190 yuan (the collective distributing 130 yuan and income from household sideline occupations amounting to 60 yuan).

SUGGESTIONS MADE ON SOLVING GRAIN PRODUCTION PROBLEM

Shijiazhuang HEBEI RIBAO in Chinese 8 Jul 82 p 1

[Article: "How Can the Problem of 'Two Lates and Two Reductions' in Grain Production Be Solved. Three Science and Technology Personnel in Shijiazhuang Prefecture Provide Five Suggestions Following Investigation and Study"]

[Text] Science and technology personnel, Li Yashen [2621 0068 3234], Yang Fuchuan [2799 1381 1557], and Wei Xidao [7614 0823 6670], from the Shijiazhuang Prefecture Science and Technology Information Institute conducted investigation and study in seven counties including Zhengding, Luancheng, Pingshan, and Yuanshi and explored problems with "two lates and two reductions" in the prefecture's two crop grain production system after which they proposed five ways in which to solve the problems. Shijiazhuang Prefecture government administrative offices adopted their suggestions and notified the entire prefecture, and now some counties and communes have begun to take action to solve these problems.

Shijiazhuang Prefecture's multiple grain sowing index is 186 percent. Throughout the prefecture mostly wheat is grown winter and spring, and corn grown summer and fall. Tremendous growth has taken place in grain output only to have problems with "two lates and two reductions" occur. Since the quantity of heat resources required and growing of multiply sown crops are not mutually compatible, low temperatures cause the corn to delay development and ripen late, and during the late growth stage low temperatures cause cold damage. The growing season is extended by 5 or 6 days, and the ripening period for corn in open fields is delayed from late September until early October. Low temperatures are bad for filling out and ripening; the per thousand kernel rate declines, and yields are low. Late ripening of the corn leads to late sowing of the wheat and a delay in the growing season with low yields. In addition, problems exist in a not completely rational farming system, corn varieties requiring a long growing season, and slapdash care of crops.

Following investigation, the three science and technology personnel made five suggestions for solving the problem of "two lates and two reductions." One was adherence to a farming system featuring intercropping. Intercropping is able to make better use of light and heat resources than the sowing of two entirely separate crops, and resistance to disaster is strong. Since the growing season is long, intermediate ripening or intermediate and early ripening varieties with great potential for increased yields may be

grown to stand a better chance of getting increased yields. Second is adaptation of general methods to local situations to do a good job of regionalizing the distribution of varieties in the farming system. On the basis of diverse climatic conditions resulting from differences in elevation above sea level, Shijiazhuang Prefecture's farming system may be divided into four major zones: The plain at the eastern foothills of the Taihang mountains and parts of the gently sloped hill region, which is a zone for two crops per year of intercropped intermediate ripening varieties; the Taihang Range frontal mountains and hill zone, which is a zone for two crops per year of intercropped early ripening varieties; the cold zone in the mid-section of the Taihang Mountains, which is a zone for the growing of two intercropped crops per year; the high frigid mountain zone of the western Taihang Mountains, which is a one crop per year zone. Distribution of varieties in each area must fit in with local natural conditions. Third is readjustment of the sowing season, earlier sowing being done so that summer corn may be harvested early and in good time to assure the sowing in good time of winter wheat. Fourth is a reduction in the waste of farming time. At the present time, time wasted on the three autumn jobs [harvesting, plowing, and sowing] in Shijiazhuang from the time that the summer corn is harvested until the winter wheat is sown) is generally 11 to 17 days for a waste of between 200 and 300 degrees Centigrade of cumulative heat, which is a major factor affecting the on-time sowing of wheat, and the growing of sturdy seedlings before the onset of winter. Shortening of the waste of farming time requires active promotion of direct return to the fields of stalks and stems to save the work time required to haul the stalks away, the composting of coarse manure, and the reverse hauling of manure to the fields. This would both help accelerate the fall harvest and fall sowing, and would help nurture soil fertility to increase crop yields. In addition, it is necessary to make full use of and bring into play the role of farm machines, to strengthen management, and to promote responsibility systems to gain time for on-time early sowing. Fifth is early care during the seeding stage to promote early ripening. When corn is intercropped with wheat, during the early period when both are growing, the young corn seedlings are yellow and weak and they lack water and fertilizer. After the wheat has been harvested, temperatures are high and the air is dry; a great amount of evaporation takes place and the soil is leathery, so the importance of early care is greater. If watering and topdressings of fertilizer are not promptly given, the debris from the wheat crop cleared away, and thinning and weeding done, not only will there be no early harvest, but seedlings may die from parching or may not develop.

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CSO: 4007/496

GOOD HARVEST REPORTED IN BAODING PREFECTURE

Shijiazhuang HEBEI RIBAO in Chinese 14 Jul 82 p 1

[Article: "Baoding Prefecture Wins Bumper Summer Harvest in a Year of Many Disasters. Summer Grain Growing Area Down by 570,000 Mu From Last Year but Total Output up by 100 Million Jin"]

[Text] • Despite multiple natural disasters including drought, hot dry winds, and aphids, Baoding Prefecture reaped a fairly good harvest this year from its 5.92 million mu of summer grain crops. Though the area sown was down 570,000 mu from last year, total output amounted to about 15.9 billion jin, up by about 100 million jin from last year.

The main reason for Baoding Prefecture's fairly good summer grain harvest this year was further arousal of the enthusiasm of the broad masses of cadres and people as a result of the reorganization of grassroots leadership teams and the perfection of responsibility systems. Since the lunar new year, prefecture and county leaders have taken the lead in the transfer of large groups of cadres to the grassroots to do a solid job of solving problems of paralysis and semi-paralysis in the leadership teams of more than 700 production brigades and more than 9,600 production teams, and to re-collect collectively owned property that had been dismantled and dispersed in more than 3,100 production teams. In production teams where no withholdings were made last year, withholdings were instituted, and pump well management and irrigation responsibility systems were promoted pretty much everywhere. In addition, leaders and technical departments at all levels used all available means to spread scientific techniques to thousands upon thousands of households. In the prefecture's 23 counties (or municipalities), 522 technical cadres instituted responsibility systems wherein technology was linked to output, contracting the farming of a land area of more than 170,000 mu. The prefecture and counties used various ways in which to give on the job training to 146,500 farm technical personnel. They also prepared, printed, and distributed large quantities of technical data in vigorous promotion of scientific wheat care. Many counties and communes used the study of advanced techniques to change the method of fertilization from "many feedings a little at a time" to "heavy fertilization with greening up fertilizer." More and more people also became familiar with phosphate fertilizer, and this year the wheatfield area of the prefecture fertilized with phosphate fertilizer amounted to 3.64 million mu, a 640,000 mu increase over last year, a total of 152,000 tons of phosphate fertilizer being spread,

more than 30,000 tons more than last year. All trades and industries vigorously supported the fight against drought to water the wheat. During this year's drought when supplies of electric power and fuel were inadequate, watering was done no fewer times than last year.

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CSO: 4007/521

PROVINCIAL NOTICE ON PESTICIDE USE ISSUED

Shijiazhuang HEBEI RIBAO in Chinese 14 Jul 82 p 1

[Article: "Provincial Government Issues Notice Requiring All Jurisdictions To Intensify Plant Protection Work and Guard Against Pesticide Poisoning"]

[Text] Recently the provincial government issued a notice titled, "Intensify Plant Protection Work and Guard Against Pesticide Poisoning." The notice required all jurisdictions to do a genuinely good job of establishing grass-roots level plant protection organizations and plant protection technical corps, to fully staff and to strengthen commune stations for the promotion of techniques. It required production brigades and production teams to have peasant plant protection personnel, encouraging them to sign agreements with production teams or commune member households for the prevention and control of insect pests and diseases, and to satisfactorily solve problems in their remuneration.

The notice pointed out the need to actively develop plant protection companies and to promote vigorously agreements for prevention and control. Plant protection companies should use agreements to contract disease and insect pest prevention and control tasks, technical personnel being responsible for technical guidance, production units being responsible for the implementation of prevention and control measures, both parties to agreements bearing individual economic responsibility to improve results in disease and insect pest prevention and control. County plant protection companies should both direct plant protection work throughout the county and should make contractual agreements for prevention and control.

Pesticides are to be used scientifically and safely. No matter the form of production responsibility system practiced, prevention and control of diseases and insect pests is to be centrally organized. The system of organization should proceed from realities and general methods adopted to specific situations in a seeking after genuine results. Either the production brigade or the production team may be the unit designated responsible for centralized inspection of insects, centralized purchases of pesticides, centralized management of pesticides, centralized mixing of pesticides, and centralized organization of prevention and control, individual households paying prevention and control fees on the basis of their area of prevention and control. Alternatively 35 households or a few score households can band together freely under the

leadership of a technical demonstration household for cooperative prevention and control. The notice also required agricultural, supply and marketing, medical and health, propaganda, educational, and cultural departments to exert joint efforts and to adopt various methods for broadly and deeply publicizing knowledge about scientific and safe use of pesticides, to give technical training, and to increase the technical levels of the masses of commune members as quickly as possible in the use of pesticides for the prevention and control of diseases and insect pests.

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CS0: 4007/521

HOEING, FERTILIZING UNDER WAY IN ZHANGJIAKOU PREFECTURE

Shijiazhuang HEBEI RIBAO in Chinese 14 Jul 82 p 1

[Article: "Zhangjiakou Prefecture Takes Firm Grip on Key Measures in an Effort To Provide Good Summer Crop Care"]

[Text] The broad masses in Zhangjiakou Prefecture have responded to the call from the Prefecture CCP Committee and government administrative offices for "an all-time high overfulfillment of agricultural production" launching a 100-day campaign of summer crop care in which the pace and quality of summer crop cultivation and fertilization has been better than in previous years.

After the Zhangjiakou Prefecture CCP Committee and government administrative offices issued an open letter on the prefecture's having "an all-time high overfulfillment of agricultural production," all levels formulated measures one after another, took firm hold of key areas, and worked as one to wage a 100 days war, with a stirring situation of "three manys" appearing in summer crop care. One was many workforces on the job, the prefecture fielding more than 720,000 people for summer crop care, making it an all-time high year for workforces on the job. Second was many working hours with many commune member households going into the fields early and finishing late, taking their noon meal in the fields, and working 14 or 15 hours daily. Third was many farm tasks done. As of 25 June, the prefecture had cultivated 9,214,000 mu of seedlings, 2,136,000 mu more than last year. So far 2,332,000 mu have been cultivated twice, 1,054,000 mu more than during the same period last year. Many contracting households have cultivated four or five times.

Since it has rained a great deal lately and the seedlings are growing rapidly, this prefecture has taken a firm grip on topdressings of fertilizer as a key measure for increasing yields. Zhuolu County has called for early topdressings, heavy topdressings, deep topdressings, and general topdressings of fertilizer, and has allocated 3 million yuan in loans for fertilizer. The county has already applied topdressings to more than 260,000 mu. A first fertilization has been given to 81 percent of the corn, gaoliang, and wheat crops, and 110,000 mu have been fertilized twice. The Xuanhua County Bank of Agriculture and credit cooperative have transferred the handling of loans for the purchase of chemical fertilizer from commune credit cooperatives to production brigade credit cooperatives. The county's 28 grassroots level supply and marketing cooperatives retail chemical fertilizer and are on duty day and night to take care of all

comers. All plains counties have stirred the masses to fertilize with sheep, goat, and chicken manure. Today the area of the prefecture that has been fertilized once amounts to 650,000 mu, exceeding the same period last year by 73 percent. The area fertilized twice amounts to 138,000 mu.

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PREFECTURE FARM MACHINERY MANAGEMENT IMPROVEMENTS REPORTED

Shijiazhuang HEBEI RIBAO in Chinese 6 Jul 82 p 2

[Article: "Centralized Production, Sale, and Management of Farm Machinery Products"]

[Text] Editorial Department: Farm mechanization has developed very rapidly in Shijiazhuang Prefecture during the past several years. One well per mu fully equipped with pumps and electricity, more than 80 percent of the wheat growing area sown by machine, and more than 40 percent harvested by machine have been fairly balanced with little overstocking in warehouses. A search for the reason reveals that it has resulted principally from promotion of a centralized system throughout the prefecture in the production, sales, and management of farm machinery. Formerly farm machinery production was the province of the Prefecture Machinery Bureau; sales were the province of the Farm Machinery Company, and administration, management, use and promotion were the province of the Farm Machinery Management Bureau--a division among the industrial, commercial, and agricultural systems. Every year when it was time to lay plans during the fourth quarter for the following year's production, though discussions were held among all three, each took a stand on his own position, product plans could not be readjusted on time, and when problems were encountered there was mutual squabbling to the serious detriment of the development of farm machinery. Beginning in 1976, the prefecture merged the Farm Machinery Management Bureau and the Machinery Bureau into the Machine Industry Bureau, and the Farm Machine Company came under the direction of the Machinery Bureau, the production, sales, management and use of farm machines thereby being unified for fine results.

First, it was possible to make centralized production plans. The Machinery Bureau organized personnel in advance to go down into the grassroots levels to conduct market investigation and forecasting. Next the production planning section produced production plans, which the Bureau leaders discussed and decided on in a meeting of units concerned.

Second, production and sales were organically linked. In 1980 the Prefecture CCP Committee made 35 percent of the prefecture harvest wheat by machine, but wheat harvesting machines did not sell rapidly. The Machinery Bureau CCP Committee, thereupon, convened a meeting of units concerned to study the matter and centrally transferred personnel from the Farm Machinery Company,

the Farm Machinery Section, the Drainage and Irrigation Section, and the Production Section to sell the products. The Bureau director directed his main energies to grassroots work. In this way, efforts were made equally by those in charge of sales and those in charge of production, and suddenly 3,500 sales occurred.

Third was elimination of contention between producers and users. Last year at wheat harvest time when Farm Machinery Section comrades promoted experimental use of wheat harvesters in rural villages, it was found that the auxiliary paddle-wheel on the special-shaped auxiliary plate was at the wrong angle, with the result that the harvested wheat was somewhat blocked and did not come out in a regular flow. They worked with the operator to try to straighten out the problem, and immediately reported the problem to the producing factory.

Fourth was timely readjustment of production plans. It had originally been intended to produce 112,000 harvester and threshing machine spare parts this year, but the Planning Section suggested a change to 113,000. Later it was realized that harvesting machines alone would require 180,000 spare parts, so bureau leaders raced to make new arrangements to make sure that the machines positively would not lack spare parts and that wheat harvest needs would be met.

Fifth was elimination of product quality and price differences. For the past several years the Farm Machine Company has been dissatisfied with the quality of deep well pumps produced by the Huolu County Water Pump Plant, and the plant generally felt that there was a ready market for its products and so did not give attention to the quality problem. The Machinery Bureau transferred some technicians to conduct studies with the plant and reasons for impairment of quality were found, making it possible to solve the problem. Products bounded into a top grade position. When the state ruled that diesel engine prices could be lowered 35 percent, Shijiazhuang Prefecture studied the matter and ruled that for purchases of more than 300 machines, prices would be lowered 30 percent, and for purchases of more than 500 machines prices would be lowered 35 percent with no squabbles resulting.

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BRIEFS

PARTIAL DROUGHT RELIEF--From the evening of 8 July until 8:00 a.m. on the morning of 10 July it rained everywhere in the province except for Tangshan Prefecture. In south central Baoding Prefecture, eastern Shijiazhuang Prefecture, northern Xingtai Prefecture, northern Hengshui Prefecture, and western Cangzhou Prefecture from 25 to 144 mm of rain fell, Shen, Gaoyi, Chao, Ningjin, Boxiang, and Shulu Counties receiving more than 100 mm. Other areas received little to moderate rainfall. Ever since late June little rain has fallen in the province, and in some places the specter of drought has risen. This recent rainfall will improve soil moisture conditions and be extremely beneficial for agricultural production. However, in western Xingtai Prefecture, western Handan Prefecture, and in the old drought areas in the southern part of the province, rainfall has been less than 4 millimeters and drought conditions continue unabated. [Text]
[Shijiazhuang HEBEI RIBAO in Chinese 10 Jul 82 p 1] 9432

CSO: 4007/496

PROGRESS REPORT ON SONGHUA JIANG POLLUTION CONTROL

Editorial Comment

Harbin HEILONGJIANG RIBAO in Chinese 10 Jul 82 p 1

[Editorial: "We Must Do Well in Bringing Songhua Jiang Pollution Under Control"]

[Text] Reading the news that the work of controlling pollution of the Songhua Jiang has achieved initial success is very inspiring and encouraging. This marks a fine beginning in bringing under control pollution of the Songhua Jiang, and is glad tidings for the millions of peasants who live in the Songhua Jiang basin.

Though much has been accomplished in bringing pollution under control in the Songhua Jiang water system, looked at in terms of full control of pollution in the water system, this work is but a first step. Many formidable tasks await completion. We must establish a mentality of protracted war because of the following: Pollution by some of the major sources of pollution has only been reduced but not totally cured. Control of some major pollutants, such as mercury deposits, is not something that can be completed in 2 or 3 years, but rather protracted and arduous efforts will be required. In the two provinces of Jilin and Heilongjiang, and in Nei Monggol tens of thousands of enterprises directly pollute the river, and control projects to be completed within a specified period of time cover only 20 percent of the total amount of polluted water. Pollution by an overwhelming majority of enterprises has yet to be controlled or cleared up. Pesticide pollution, pollution by hospitals, and pollution by waste water from the people on the several hundred square kilometers of land along the river has not been fundamentally controlled. Some of the newly constructed enterprises have not put into effect the "three concurrents" [provisions for eliminating pollutants as an integral part of production processes], so they add new pollution. Therefore, it is necessary to handle the treatment of Songhua Jiang pollution as a long-term task that has to be adhered to in a protracted struggle against pollution. We must make up our minds that there will be no slackening of efforts until pollution has been eliminated, and that there will be no rest until the river water is clean, and be determined to clean up pollution of the Songhua Jiang!

Cleaning up pollution in the Songhua Jiang is an extremely urgent task. This is because of the seriousness of the pollution. Today, much of the industrial

waste water that enters the river does not meet standards for discharge, and some of it exceeds national standards many times or tens of times over. The health of the mass of people is in danger. Moreover, as a result of pollution of the river water, machinery and equipment has been seriously corroded. This hurts product quality and interferes with development of industry, agriculture, and the fishing industry. Socialist enterprises have as their goal the creation of wealth for the people, but when they create havoc for the people and for posterity, does this not go against the goals of socialist production? Therefore, cleaning up pollution is not only a matter of professional morality for each individual enterprise, but is also something decided by the socialist system. We must have a sense of urgency. Every day gained in cleaning it up is a day of creating wealth for the people. Every day's delay is a crime against the people. Only by having a sense of urgency will one not wait or depend on others, but actively create conditions and devote urgent attention to the cleanup. Some advanced units have relied mainly on their own manpower, financial, and material resources, cleaning up pollution through self-reliance. Other units, on the other hand, emphasize subjective conditions, saying that if someone wants them to clean up the pollution, they should give them money to do it. Such an apathetic attitude must be overcome. Except for some comprehensive clean-up projects that the state and higher authority should support, for the overwhelming majority of medium size and small size projects for which the expenditure is not great, only by tapping the potential from within can the problem be solved.

Cleaning up the pollution in the Songhua Jiang is a task of very strong [two characters illegible] requiring not only a revolutionary spirit, but also requiring a scientific attitude. Pollution of the Songhua Jiang is, to a very great degree, the result of backward technology, [several characters indistinct] that has given rise to a waste of energy and resources. Thus, it is necessary to vigorously advocate scientific pollution control and to get results from scientific techniques. The work to be done in this regard is great. Production enterprises that seriously pollute must undertake major technical innovations and technical improvements, get rid of backward techniques, and substitute advanced new techniques. Large specialized institutions of higher education, scientific research organizations, and industrial and mining enterprises must organize and work together in an attack on some major scientific research topics, and departments concerned should lend support in manpower, material and financial resources for this purpose. Intelligence work on environmental protection has to be strengthened, and new techniques from abroad in the cleaning up of pollution promptly mastered, so the work we do can draw on this experience and gain impetus from it. Monitoring devices and methods should be augmented and monitoring centers set up to intensify monitoring of water systems to provide scientific evidence of changes in water system pollution as it occurs and to bring pollution under control.

Pollution of the Songhua Jiang is caused by countless units and departments. It affects areas in both the upper reaches and the lower reaches, and it affects industry, agriculture, business, and health departments, and all trades and industries. It is a social problem. Consequently, in order to clean up the pollution, it is necessary to mobilize all prefectures, all departments, and all trades and industries, to mobilize the masses of people, to make concerted

efforts from top to bottom, and to take action together in every quarter. Only in this way will it be possible to halt and prevent pollution effectively. It is necessary to organize individual sectors into coordinated combat, break through regional lines, link together pollution, regions, and sections, and make mutual inspections in order to promote control. Widespread efforts must be made to arouse the people to build an environmental protection corps consisting of specialists, part-timers, and the masses to help supervise and inspect pollution and to control the situation. Only if all sectors of society and all forces are mobilized can greater results be achieved in cleaning up pollution.

In order to clean up pollution of the Songhua Jiang, it will also be necessary to adopt compulsory administrative actions and to use economic and legal methods. This is necessary in order to protect the people's welfare and to protect the welfare of society as a whole. The nationally promulgated "Environmental Protection Law (Trial)" and "Management Regulations on Collection of Fees for Discharge of Pollutants" are major administrative regulations for promoting a cleanup of pollution. All departments and enterprises must carry them into effect, make certain to maintain the solemnity of the law, and handle matters strictly in accordance with laws. All units that are to clean up in a certain period of time are to finish within that period of time. Where work cannot be finished in time as a result of lack of effort on the part of leaders, responsibility is to be fixed on leaders and economic penalties imposed.

Protection of the Songhua Jiang and cleaning up of the Songhua Jiang is a formidable, glorious, and great undertaking. It is a major component in our building of the two civilizations. Only by having grand and far-reaching goals the resolve to struggle for a long period of time, a firm and indomitable spirit, a work style in which our feet are firmly planted on the ground, and a strictly scientific attitude will we be able to eliminate pollution in the Songhua Jiang water system and bring about its early return as a beautiful, limpid river.

Conference Held

Harbin HEILONGJIANG RIBAO in Chinese 10 Jul 82 p 1

[Text] Under a new situation of readjustment of the national economy active and effective measures are to be adopted to achieve new levels in the job of clearing up the Songhua Jiang water system in an effort to achieve by 1985 a remarkable improvement in quality of water in seriously polluted sections of the river, a 60 percent processing rate for waste water, and a breakthrough in cleaning up mercury deposits in the river. This is the objective of struggle put forward to Jilin and Heilongjiang provinces by the Third Songhua Jiang Water System Protection Conference.

The Third Songhua Jiang Water System Protection Conference was held in Qiqihaer from 2 to 5 July. A total of more than 500 persons in charge in the various commissions, departments and bureaus of Jilin and Heilongjiang Province, persons in charge in various provincial government administrative

offices, municipalities, and counties, as well as delegates from individual major industrial and mining enterprises and entrepreneurial units along the river attended the conference.

Chen Xiping [7115 6007 1627], representative from the national Ministry of Urban and Rural Construction and Environmental Protection, and delegates from other national ministries and commissions involved, as well as persons in charge of departments concerned in the Nei Monggol Autonomous Region also participated in the conference.

The unit chief of the Songhua Jiang Water System Protection Leadership Unit and Jilin Province vice provincial governor, Dong Xin [5516 2500], made a report to the conference on behalf of the unit. The deputy director of the leadership unit, Heilongjiang Provincial CCP Committee secretary and vice provincial governor of Heilongjiang Province, Chen Jianfei [7115 0494 7378] gave a speech at the conference.

This conference summarized accomplishments and experiences during the past 4 years in cleaning up the Songhua Jiang water system. It studied existing problems and measures for further prevention and control of pollution, proposing a goal for struggle between now and 1985. The conference asked all departments and enterprises concerned to link together the prevention and control of pollution of the Songhua Jiang with technical improvements in enterprises, using the technical improvements to solve, to the maximum extent possible, industrial pollution in the production process. It asked major sources of pollution to continue to take action to clean up within a limited period of time, and to hasten the pace of the cleanup, leaders of units unable to complete the cleanup on time being held responsible. Management of the water system is to be improved, both legal methods and economic measures being used to strictly control production and new pollution. In projects to be newly built, remodeled, or enlarged, the "three concurrent" regulations are to be enforced requiring concurrent designing, construction, and operation of projects and pollution control devices. Monitoring of water quality is to be intensified, and a good job done in scientific research on prevention and control of water pollution. Units who had made achievements in the prevention and control of Songhua Jiang water system pollution, including the Jilin Chemical Industry Company, the Mudanjiang Petroleum Refinery, the No 1 Automobile Manufacturing Plant, and the Qiqihaer Steel Mill gave briefings on experiences to the conference.

The Songhua Jiang Water System Leadership Unit issued banners of merit, certificates of merit and trophies to 29 advanced units and 25 advanced persons in Jilin and Heilongjiang provinces.

Pollution Control Achievements

Harbin HEILONGJIANG RIBAO in Chinese 10 Jul 82 p 1

[Text] The work of cleaning up pollution of the Songhua Jiang water system has achieved heartening results. Pollution has been brought under preliminary

control; a great reduction has taken place in the quantity of pollutants discharged into the river; and water quality has improved remarkably. In the second stage of the Songhua Jiang where fish and shrimp had virtually vanished, schools of fish have appeared again; and in the Nen Jiang, where valuable fish were rarely seen for a time, an increase has taken place.

The Songjiang water system encompasses the second stage of the Songhua Jiang, the Nen Jiang, the Mudan Jiang, and several such large tributaries, the basin covering an area of more than 540,000 square kilometers. This is a water conservancy resource shared by Jilin, Heilongjiang, and the Nei Monggol Autonomous Region. With the building of industrial production following the 1960's, river pollution became increasingly serious. Daily more than 8 million tons of damaging effluent containing phenol, cyanogen, mercury, chromium, arsenic, alkali, and oil was discharged into the river posing a serious danger to agriculture, the fishing industry and the people along the river. In order to buttress the prevention and control of pollution of the Songhua Jiang water system, in 1978 the State Council approved the establishment by the governments of Jilin and Heilongjiang provinces and pertinent ministries and commissions of the central government of the Songhua Jiang Water System Protection Leadership Unit with responsibilities for overall planning of pollution and control on the Songhua Jiang water system. The leadership unit held a regular meeting once each year and also held three water system protection conferences for prompt summarization of the lessons of experience in pollution prevention and control, to solve existing problems, and to energetically give impetus to the work of pollution prevention and control on the entire water system.

In the process of cleaning up pollution on the Songhua Jiang water system, it directed attention to the major polluting cities, major sources of pollution, and the major pollutants. Under the centralized direction of the leadership unit, Jilin and Heilongjiang provinces designated three groups causing serious pollution and demanded that 140 enterprises and 187 projects causing the greatest damage clean up within a limited period of time. The Jilin Chemical Industry Company was the number one source of pollution in the second stage of the Songhua Jiang, discharging a large quantity of waste water containing numerous kinds of poisonous materials of high toxicity. In the process of cleaning up within a limited period of time, they took only 2 years time to build a waste water processing system capable of handling 192,000 tons daily, the first section of which has already gone into formal production. The second section is being feverishly worked on. Once this project has been completed, it will play a definite role in improving the water quality of the Songhua Jiang. Qiqihaer was the major polluting city in the mid reaches of the Nen Jiang, which has set up 95 projects within the space of 4 years for effecting a cleanup in a short period of time. The cleanup centers on the Qiqihaer Steel Mill, the No 1 Heavy Machinery Plant's effluent, which contains phenol, and the organic effluent of a sugar mill, a paper mill, and a main tannery plant. As a result, the phenol content of the Nen Jiang's water has become much lower than national health standards for surface water, and aquatic product resources have revived.

In the course of cleaning up Songhua Jiang water system pollution, many methods were applied to strengthen management of the water system. In the case of enterprises that seriously polluted and could not be readily brought under control, closures, suspensions, mergers, retooling, and relocation were done to solve pollution problems. In Nenjiang Prefecture alone, 11 industrial plants were relocated, and 15 plants were closed or suspended. Last year both Jilin and Heilongjiang provinces instituted a system of fee collections for discharge of pollutants. Enterprises whose pollutants posed great dangers were economically penalized. This aroused serious attention on the part of all levels of leadership about cleaning up pollution, and numerous enterprises took the initiative to start pollution control work and plug gaps creating pollution. In addition, after instituting the collection of fees for discharge of pollutants, some cleanup funds were collected, and during the past 2 years both Jilin and Heilongjiang provinces have used the fees obtained for discharge of pollutants to set up 235 clean-up projects in which they have invested 17.5 million yuan. In addition, for new construction, remodelling, and expansion of large and medium size projects, they have instituted a system of environmental impact reports, and have devoted great attention to implementation of the "three concurrents" for effective control over the production of new sources of pollution.

Under the centralized planning of the Waterway Leadership Unit, Jilin and Heilongjiang environmental protection departments have intensified monitoring of the Songhua Jiang water system. They have built 39 monitoring stations on the waterway equipping them with water quality monitoring boats and other devices and equipment for the preliminary formation of a Songhua Jiang water quality monitoring network. This will provide large amounts of monitoring data and technical material for understanding the waterway's environmental quality and for comprehensive prevention and control of pollution, playing a sentry role as eyes and ears. Jilin and Heilongjiang's science commissions and environmental protection departments have organized relevant scientific research units and institutions of higher learning to begin active research work on Songhua Jiang water system environmental protection. During the past several years, large groups of scientists and technicians have gone into industrial plants, rural villages, and seriously polluted stretches of the Songhua Jiang basin to survey the pollution situation and to study the danger pollutants pose to human health as well as to agriculture, the fishing industry, and organisms. It has already okayed 31 scientific research projects, 23 of which have been applied to pollution prevention and control. Tong He paper mill engineer Wang Deshan [3076 1795 1472] succeeded after 7 years of research on the new technique of electrodialysis of black liquid produced in paper making, recovering caustic soda to clean up pollution, obtaining both remarkable economic benefits and environmental benefits. Jilin Municipal Fuels and Chemicals Bureau assistant engineer Cui Yongjiang [1508 3057 3068] went into the No 3 Chemical Industry Plant to solve pollution problems involving waste water containing metaphenylenediamine contributing his strength to increasing the country's wealth and protecting the Songhua Jiang.

STATUS REPORT ON NEN RIVER DIVERSION PROJECT POSTED

Harbin HEILONGJIANG RIBAO in Chinese 5 Jun 82 p 1

[Article: "Nen Jiang Diversion Project in Southern Heilongjiang Begins to Provide Benefits. Progress Made in Solving the Water Shortage Problem of the Western Prairie"]

[Text] The Nen Jiang River diversion in southern Heilongjiang Province, on which 80 percent of construction has been completed, already holds more than 160 million cubic meters of water to form a natural reservoir with a water surface larger than a mirror lake so that the farming, animal husbandry, sideline occupations, and fisheries of nearby communes and brigades can flourish.

Beginning during the 1970's, construction has continued on a project in the western part of the province on large northern, southern, and central diversions of the waters of the Nen Jiang to irrigate the western prairie. The southern Nen Jiang diversion project, on which construction began in 1977, is located on the left bank of the lower reaches of the Nen Jiang, and the diversion channels traverse the Zhaoyuan and Duerbo Counties, and the city of Daqing. This is a large water storage project for the benefit of agriculture, animal husbandry, sideline occupations, and the fishing industry. The waters diverted from the Nen Jiang are stored in eight natural ponds to form a continuous large reservoir. The amount of water currently impounded is about one-fourth the design requirement. Following diversion of the river waters, the natural and economic situation around the reservoir area began to change. The large increase in water surface brought good influences to this arid climate and promoted development of agriculture. The river waters brought abundant aquatic products. Last year alone, Lijiayao Second Brigade in Yaoxintun Commune in Duerbote Monggol Autonomous County caught fish in the reservoir and channel for earnings of 30,000 yuan. Reeds grow luxiantly along the reservoir shore, and last year a total of 14,700 tons of reeds were harvested from the reservoir area to increase earnings by 880,000 yuan. Grass quality on the prairie near the reservoir area has also begun to change. Grazing cattle and sheep are fat and sturdy.

Today the two counties and one city are both continuing attention to project construction and striving to increase benefits from the project as well. Communes and brigades concerned have already formulated comprehensive regulations for use.

9432

CSO: 4007/516

NOTICE ISSUED FOR METHOD TO CLASSIFY PEASANT TECHNICAL PERSONNEL

Harbin HEILONGJIANG RIBAO in Chinese 6 Jun 82 p 1

[Article: "Heilongjiang Province Tries 'Peasant Technical Personnel Management Methods.' Classification as Peasant Technicians and Grade 1, 2 and 3 Peasant Technical Personnel With Testing and Assessment Before Year's End"]

[Text] Recently the Provincial People's Government issued a notice approving the "Heilongjiang Provincial Peasant Technical Personnel Management Method (Trial)" and called on all prefectures, municipalities, and counties, as well as departments concerned directly subordinate to the province, to do a good job of peasant technical personnel classification and evaluation work, carrying out testing and assessment of existing peasant technical personnel before the end of the year.

The management methods stipulated classification as peasant technician and as grade 1, 2 and 3 peasant technical personnel. Peasant technicians must possess vocational skills equivalent to levels at institutions of higher education, have more than 10 years practical experience in technical agricultural work, and be able independently to solve crucial technical problems in production. Grade 1 peasant technical personnel must possess vocational skills equivalent to the technical secondary school level, have more than 5 years practical experience in technical agricultural work, and be able independently to conduct experiments and demonstrations. Grade 2 peasant technical personnel must be able rather systematically to understand certain scientific and technical knowledge and operating skills, have more than 3 years practical experience in technical agricultural work, and be able to conduct experiments and demonstrations as required. Grade 3 peasant technical personnel must be able to understand in a preliminary way certain agricultural scientific and technical knowledge and operating skills and to be able to solve run of the mill technical problems in production.

Peasant technicians and peasant technical personnel classification is to be done by municipal and county peoples governments (farm machinery by provincial administrative offices and by cities), certificates being issued. Peasant technical personnel will be eligible for promotion once every 2 years, and those who have been classified will be subject to regular observation. The management methods also stipulated peasant technical personnel remuneration and technical subsidy methods.

NEED FOR ECONOMIC CROP QUALITY IMPROVEMENT ACCENTED

Harbin HEILONGJIANG RIBAO in Chinese 8 Jun 82 p 2

[Article by Sun Xiangde [1327 0686 1795], Provincial Bureau of Agriculture: "Need To Stress Product Quality in Production of Economic Crops"]

[Text] The province's production of economic crops has developed very rapidly during the past several years, the area sown to economic crops having doubled over what it had been before the Third Plenary Session of the 11th Party Central Committee. Yields per unit of area have increased for all crops, and total output has grown tremendously, oil-bearing crops increasing four fold, sugarbeets increasing 1.5 fold, flax doubling, and tobacco increasing somewhat as well. This has been of very great benefit in satisfying the needs for raw materials of light and textile industries and in increasing commune and brigade earnings. However, product quality of economic crops has risen only slowly. During the past 2 years, sugar content of sugarbeets even declined between 1.5 and 2 percent from what it had been during the 1970's, and the turn out rate for flax has stopped at its former level. Many problems also exist with quality of medicinal materials and vegetables, and because of poor quality of some products, industrial processing is difficult and businesses cannot sell them. This shows that how to improve product quality in economic crop production is a problem deserving of attention.

Aside from the effects of climatic conditions, the main reasons for the slow rise or the decline in product quality of economic crops are as follows: 1. In some economic crop producing areas, attention is given only to increasing quantity and no attention is given to increasing product quality. Some people mistakenly suppose that earnings are unaffected no matter whether quality is good or bad. 2. Poor quality resulting from lack of understanding of techniques. 3. Poor seed quality and impure varieties that produce inferior quality. 4. Some purchasing departments do not strictly check quality of goods, and do not negotiate prices on the basis of quality. This affects the enthusiasm of the masses for improvement of quality. 5. Purchase standards for some products are not sensible. Oil-bearing crops, sugarbeets, and flax, for example, are bought by the quantity with no quality grading for purchases. In order to improve product quality, the following several tasks must be done.

Full Understanding of the Importance of Improving Product Quality.

The province has many kinds of economic crops--oil-bearing crops, hems, sugarbeets, tobacco, and medicinal materials, all of which are raw materials for

national light and textile industries. Broadly speaking, fruits, melons, flowers and such garden crops are also kinds of economic crops that are both raw materials for the food industry and are necessary consumption goods for use in the daily life of the people. Thus, the quantity of economic crops and their quality directly relates to development of the national economy and to improvement in the people's livelihood. If the province's sugarbeets average a one percent increase in sugar, without any additional facilities or investment, it is possible to increase sugar output by from 25,000 to 30,000 tons for a value of more than 30 million yuan. If flue-cured tobacco is improved by a single grade on average, peasant income increased by from 50 to 70 per mu, and increased earnings from tobacco growing areas of the province as a whole amount to between 30 and 40 million yuan. Therefore, cadres and the masses in economic crop growing areas must certainly realize the importance of improving product quality. They must particularly overcome their sole concern for quantity to the neglect of quality.

Dissemination and Improvement In Farming Techniques

It is necessary to further promote and disseminate effective conventional farming techniques and also to study and advance new techniques for improvement in product quality. For example, in field care during the present stage, in addition to doing a good job of care and of applying top dressings of phosphate and potash, it is also necessary to institute care of individual kinds of things. For example, for the sunflowers growing among oil-bearing crops, prompt removal of side branches and artificially assisted pollination must be done. Peanuts require "stripping to restrain growth of seedlings for root development" to make the most of the function of the first pair of side branches. Sugarbeets have to be thinned promptly and sugarbeet leaves retained during the growing season to increase sugarbeet photosynthesis for the accumulation of sugar. Flax requires prevention of excessive weeds from the very outset. When the flax is uprooted, all weeds must be completely removed, etc. In the case of some newly promoted techniques requiring try outs and demonstrations such as the use of plastic mulch in the growing of peanuts and tobacco, and the fertilization with trace elements and the spraying of stimulants on sugarbeets and sunflowers, fertilization and spraying should be done according to what elements the soil lacks and what the crops need.

Achieving the Sale of Clean Goods and Delivery of Clean Goods to Market

Cleaning products until they are spic and span and selling clean merchandise is one important way in which to improve product quality. When crops are harvested, the slightest bit of inattention and dirt weeds become mixed in to cause an excessive amount of detritus that impairs product quality. In Heilongjiang Province, in particular, where in the purchase of economic crops at the present stage, the naked eye is used to check and measure quality, inaccurate quality checks are very likely to occur. If clean merchandise is tendered, checking will be made easier and no major mistakes will occur, which will be an advantage for those doing the selling.

Conscientious Implementation of Purchase Policies.

When purchasing departments buy economic crop products, they should strictly understand the principle of premium price for premium quality, and conscientiously carry out purchase price and quality standards established by the state. They should widely publicize what kinds of sugarbeets will be discounted by 80 percent and what kinds will be discounted 10 or 20 percent so that the masses will have standards they can use to judge and a direction in which they can strive. Otherwise the masses will have an impression that no distinctions between good and bad are made. In addition, some product purchasing policies should be improved. An example is sugarbeets for which there are no grades for purchases, discounting being done on the basis of extraneous materials being mixed in instead of grade. This is very imprecise, and it is suggested that grade standards be reinstituted. Sugarbeets and oil-bearing crops should be graded for purchase on the basis of sugar content and oil content. When necessary, it is recommended that some quick chemical testing equipment be installed, and if tests are successful, that this method be promoted. In short, the principle of premium prices for premium quality should be genuinely put into effect and purchase policies used to give impetus to adoption of measures by the masses to improve quality of economic crop products.

9432

CSO: 4007/516

MULTIPLE USES OF SOYBEANS PROMOTED

Harbin HEILONGJIANG RIBAO in Chinese 13 Jun 82 p 1

[Article: "Province Makes New Advances in Multiple Uses of Soybeans. Experts Suggest Drafting Plan With All Possible Speed for Multiple Use of Soybeans Throughout Province and Conscientious Solution to Pertinent Economic Problems"]

[Text] Progress has been fairly rapid in Heilongjiang Province's research and promotion of multiple uses for soybeans. Right now, two soybean protein separation workshops with daily outputs of 400 kilograms and 700 kilograms are being built, and it is anticipated that they will go into production shortly. Success has also been attained in pilot projects for the extraction of enriched protein, and experiments with adding it to several different foodstuffs have begun. During the last half of last year alone, the province produced more than 800 tons of protein of soybean origin, which was sold in Shandong, Shanxi, and Henan provinces. Definite growth has taken place in soybean protein beverages. In addition to "Jinboye," which has gone into small lot production, research has succeeded in the production of neutral protein milk and acid protein milk beverages. Bread, biscuits, sweets, and cakes to which soybean protein and phosphatide have been added are being test marketed and have been increasingly well received by the public.

At the recently convened provincial technical discussion conference on multiple uses for soybeans, experts acknowledge that multiple use of soybeans is just getting underway in Heilongjiang Province and that the potential for multiple uses of soybeans is still very great. They recommended the drafting, with all possible speed, of provincial plans for multiple use of soybeans and the conscientious solution to technical and economic policy problems in order to promote multiple uses of soybeans throughout the province.

9432

CSO: 4007/473

PROGRESS REPORTED IN ERADICATION OF HOG CYSTICEROSIS

Success in Zhaodong County

Harbin HEILONGJIANG RIBAO in Chinese 20 Jun 82 p 1

[Text] The Zhaodong County CCP Committee and county government brought into play the functional role of the commercial, health, and animal husbandry sectors to win outstanding achievements in the eradication of cestodiasis and the elimination of cysticercosis. During the butchering of commodity hogs last year, the cull rate for "beanies" [so called because of the bean-like appearance of symptoms] was only 6.26 percent, a 3.5 percent decline from 1980. The number of "bean hogs" found during the butchering of commodity hogs between January and May this year was 230-odd fewer than for the same period last year for a more than 18,000 yuan smaller loss for the country. Zhaodong became the county in the province in which eradication of "bean hogs" had been most rapid. Not long ago it had been praised as an advanced county in the province for the eradication of cestodiasis and the elimination of cysticercosis.

Formerly this county lacked concerted and centralized leadership in the work of eradicating cestodiasis and the elimination of cysticercosis, and it had little success. At the end of 1980, the County CCP Committee strengthened leadership of this work by setting up a coordinated leadership team for the eradication of cestodiasis and the elimination of cysticercosis, which directed attention to the work as a major task. It brought into full play the functional role of the commercial, health, and animal husbandry sectors with the result that within a short period of time, the county's work in eradicating cestodiasis and eliminating cysticercosis showed remarkable success.

One of the major actions that Zhaodong County took in the eradication of "bean hogs" was the eradication of human tapeworms [cestodiasis]. Throughout the county, almost 100 buyers in food purchasing stations, a tapeworm specimen frequently in hand, would prosylitize or explain whenever they encountered people. Wherever they went, they took medicine for the eradication of tapeworms, which they gave to people to get rid of tapeworms. Ren Peifu [0117 0160 3187], buyer for the Songzhan food station eliminated 113 tapeworms in a single year and Wang Jinshan [3769 6855 1472], buyer at the Wuzhan food station eradicated 87 in a single year. They were both acclaimed by the province and county as skilled hands in the eradication of tapeworms. By way of encouraging enthusiasm for the eradication of tapeworms, the county government decided to issue

a bonus of 8 yuan for the eradication of each tapeworm, also giving 2 yuan to the victim from whom the tapeworm had been eliminated. In this way, they further fanned enthusiasm for the eradication of human tapeworms. In order to eliminate "bean hogs" before butchering time, every effort was made to select out the "bean hogs" from among the more than 50,000 head annual purchased in the county at the time of purchase. In butchering hogs in urban and rural areas rigorous quarantining was done. The meat of "bean hogs" that had been quarantined was handled in accordance with national regulations.

In order to make sure that "human feces go into the toilet and hogs go into stys," so as to halt consumption of feces from humans having cestodiasis that caused the growth of larvae in hogs, management of human feces was improved. Last year the county repaired or rebuilt 83,000 pig stys and built 72,000 toilets. At the end of last December, the County CCP Committee and county government issued a document that established a policy of high compensation for contributions of manure so as to give further impetus to the raising of hogs in stys year round.

In order to reduce the number of "bean hogs" purchased by the state without creating greater economic losses for hog raisers, the county food company ran a pilot project in Xianjin and Minzhu communes on the buying of small "bean hogs," and the county government decided that this year it would undertake the purchase of "bean hogs" throughout the county to speed up making the county into a cysticercosis free one.

Commentary

Harbin HEILONGJIANG RIBAO in Chinese 20 Jun 82 p 1

[Text] Great progress has occurred during the past several years in the eradication of cestodiasis and the elimination of cysticercosis in Heilongjiang Province. The number of "bean hogs" has decreased year by year, and the cull rate for "bean hogs" at the time of commodity hog butchering has also greatly declined. Nevertheless, today the area of hog cysticercosis in the province is still very large. Survey by departments concerned shows that sufferers from cestodiasis in the province's rural villages number about 6 per 1,000 and that the national incidence is fairly high. Hog cysticerci go through a cycle of infection between humans and hogs, which seriously impairs the physical health of the people, and damages the development of live hog production. The economic losses caused in dealing in live hogs are also very great. In 1981 the province's cull rate for "bean hogs" when commodity hogs were butchered was 9.21 percent, for economic losses amounting to more than 17 million yuan. Were "bean hogs" to be eliminated, without any increase in annual livestock feed consumption there would be a 300,000 head increase in the number of commodity hogs. Therefore, every place in the province must set their sights high to do a solid job of eradicating cestodiasis and eliminating cysticercosis, striving to bring about a tremendous decline in the numbers of "bean hogs" in the province within the shortest period of time.

Though steps taken in Heilongjiang Province have not been great in the eradication of cestodiasis and the elimination of cysticercosis, some places have accumulated some rather good experiences. As a result of practice, Zhaodong

County has summarized three experiences. One is the elimination of tapeworms in humans as a means of eliminating the source of infection for "bean" growth in hogs. Second is doing a good job of pork inspections to make sure that the ailment does not enter through people's mouths. Third is toilets for people and stys for pigs, with hogs being raised in stys year round. Practice has shown that these three experiences are effective ways in which to eradicate cestodiasis and eliminate cysticercosis. The raising of live hogs in stys is a particularly good way which to put a complete stop to "bean hogs." However, at the present time, in many places in the province hogs are still not raised in stys; most roam at large. Unless this old habit is quickly changed, any thought of eradicating "bean hogs" in Heilongjiang Province will be just empty talk. With the implementation of the party's various economic policies for rural villages during the past several years, as a result of the allocation of land on which to raise fodder to the giving of grain to raise hogs and reasonable compensation being paid for the fattening of hogs, conditions are in being for the year round raising of hogs in stys. All that is needed is a strengthening of leadership and a good job of propagandizing and educating in scientific hog raising, and the year round raising of hogs in sties in rural villages is attainable.

Of course, doing a good job of eradicating cestodiasis and eliminating cysticercosis is not something that any sector can do all by itself. There has to be the kind of close coordination effected in Zhaodong County among the commercial, health, and animal husbandry sectors, bringing into full play existing technical capabilities, constantly summarizing experiences, and taking hold of the problem and holding fast to it till the end. In this way, within 3 or 4 years, there is great hope that cysticercosis can be eliminated in the province.

Zhaodong County's experiences also tell us that in undertaking the eradication of cestodiasis and the elimination of cysticercosis, efforts have to be linked to local realities, and general methods adapted to specific situations for the use of some economic methods to stir the enthusiasm of people, and to give impetus to the work of eradicating cestodiasis and eliminating cysticercosis.

Origins of 'Bean Hogs'

Harbin HEILONGJIANG RIBAO in Chinese 20 Jun 82 p 1

[Text] "Bean hogs" means hogs that have cysticercosis. The scientific name for this is echinococcosis. It is popularly termed "bean hog" or "rice grain hog" because of the pellet shape of the symptoms. Hog cysticerci are a parasite that grow in many parts of a hog's body.

When people accidentally eat "bean hog" pork, the hog cysticerci develop into tapeworms in the human digestive tract, and become parasites in the small intestines where their small rice grain size heads closely adhere to the intestinal wall, damaging the person's physical health. Mature segments of these tapeworm's bodies are continuously eliminated from the body with feces. Millions of larvae in these segments infest human feces. Should hogs eat human feces containing these larvae, they develop into cysticerci in the hog within 2 or 3 months time. Tapeworms and cysticerci carried from humans to hogs and from

hogs back to humans thus infect both. People can contract not only cestodiasis but cysticercosis as well. By accidentally eating larvae on raw vegetables or from infection from a tapeworm victim, cysticerci parasites may grow in a person's muscles or body organs. If the parasites infect the eyes, blindness may result. Should they lodge in the heart or brain, one's life is in peril.

In order to guard against humans contracting tapeworms and hogs growing "beans," tapeworm parasites in human bodies have to be eradicated first to eliminate the source of infection. It is also necessary to exercise better management over pork containing cysticerci to end opportunities for people to contract tapeworms by accidentally eating pork containing cysticerci.

9342

CSO: 4007/514

RURAL RESPONSIBILITY SYSTEMS WORKING IN GANZHOU PREFECTURE

Beijing RENMIN RIBAO in Chinese 29 Jul 82 p 1

[Article: "The Five Rural Occupations Flourish in Ganzhou Prefecture. All Work Rolling Along Smoothly. Tremendous Superiority of Sole Responsibility System Demonstrated. Total Grain Output Breaks 4 Billion Jin Mark for First Time. Degree of Increase Fairly Great for Sugarcane, Flue-cured Tobacco, and Watermelons"]

[Text] Following all around promotion of the responsibility system whereby households assume sole responsibility for task completion in rural Ganzhou Prefecture, Jiangxi Province, not only have the four rural occupations [farming, forestry, livestock raising, sideline occupations, and fisheries] prospered, but all work has rolled along fairly smoothly.

After the Third Plenary Session of the 11th Party Central Committee, rural Ganzhou Prefecture began to practice the system of sole responsibility for task completion, but met with obstacles. After examination of practice, its superiority became increasingly apparent and the masses demanded it more and more urgently. Leadership cadres at all levels also gradually reached a consensus with the masses, and the sole responsibility system came out of obscurity into the light, went from little use to much use, and was promoted from key points to wide areas. Last year 94 percent of production teams in the prefecture practiced assumption of sole responsibility for task completion, and 4.2 percent practiced the fixing of output quotas based on households. Consequently, the hope of breaking the 4 billion jin mark in total grain production, which had been thought about for many years, was realized for the first time. Average per capita grain production reached 537 jin, putting an end to a many year history of eating grain sold back to peasants by the state. Fairly great growth also occurred in economic crops such as sugarcane, flue-cured tobacco, and watermelons, and forestry, livestock raising, sideline occupations, and fisheries also saw new development. In 1981 per capita income for the prefecture as a whole averaged somewhat more than 120 yuan, a more than 40 yuan increase over 1980. For the first half of 1982, the rural production picture has been even better. A bumper early rice harvest is in prospect, and a greater increase than last year will occur in economic crops such as flue-cured tobacco, watermelons, and sugarcane.

Some people have said that though the assumption of sole responsibility for task completion has caused production to rise, public feeling has been dispersed and many jobs are hard to do. What are the facts? Following institution of the system of assumption of responsibility for task completion, state procurement and assigned procurement tasks have not been hard to do, but rather have been done relatively well. Last year the entire prefecture's state requisition and assigned procurement quotas for the major agricultural and sideline products of grain, oil-bearing crops and hogs were entirely fulfilled, and collective accumulations were also honored according to agreements. Households selling 10,000 jin of grain to the state numbered 274; those selling 5,000 jin numbered 1,176.

Following assignment of sole responsibility for completion of tasks, is it true that there is no way in which to undertake farmland water conservancy construction? No. Following assignment of sole responsibility for task completion, the mass of peasants have been keenly pained at waterlogging and drought disasters. They wanted to spend their own money and labor on the building of water conservancy. At the end of last year, Ganzhou Prefecture added an effectively irrigated farmland area of 21,400 mu, improved irrigation for 26,000 mu of farmland and the drainage on 2,700 mu of farmland. When construction of a large dam began in the winter of 1980 at Longshan County's biggest water conservancy project, Fengshoupo, inasmuch as 80 percent of production teams in the area that would benefit practiced assumption of sole responsibility for task completion, and since the principle of those who benefit are to be responsible was implemented, during two winters and springs, 1.4 million people worked on the project, and in March of this year the dam project was completed on schedule. Facts have shown that the following institution of the assignment of sole responsibility for task completion, water conservancy construction has been more solidly done than last year, and more attention has been paid to effectiveness.

Following practice of the assignment of sole responsibility for task completion, has the spread and popularization of science and technology been done better or worse? Contrary to what some people imagined, because the peasants have taken charge and benefits are more direct, the enthusiasm for scientific farming is even higher. Each of the communes in the 19 counties and municipalities in Ganzhou Prefecture have set up farm technology promotion and consultation stations, scientific farming demonstrations households, and households in which remuneration is linked to practice of scientific techniques. Some have also established plant protection companies and have practiced technical contracting. In rural villages an unprecedented "scientific craze" has taken place.

Following assignment of sole responsibility for task completion, rural Ganzhou Prefecture everywhere adopted a system of collective withholdings, subsidies from commune and brigade enterprises, and the pooling of funds to run schools. The school attendance rate for peasant children of school age has steadied at more than 95 percent. Some people feared that following the practice of sole

responsibility for task completion, the work of recruiting soldiers would be difficult. But because of improvement in the standard of living of the masses in Ganzhou Prefecture during the last 2 years, better implementation of policies for special care to disabled servicemen and to family members of revolutionary martyrs and servicemen, and the elimination of nagging worries about the home front, quotas for the recruitment of soldiers have been over-fulfilled and both quantity and quality maintained.

Whether it will be possible following the practice of sole responsibility for task completion to do a good job of planned parenthood has become a problem that people are concerned about. Experience in Ganzhou Prefecture has shown that so long as methods are right and actions vigorous, this most difficult task can also be done well. In view of the new circumstances that have taken place following assignment of sole responsibility for task completion, this prefecture has adopted many new measures. For example, for wives who hold certificates for the birth of a single son or daughter an additional 1/10 mu of responsibility field is given, or else a special parcel of good land is assigned to encourage planned parenthood. Quite a few counties and communes also practice a planned parenthood agreement system and a planned parenthood cadre personal responsibility system to make sure of the smooth development of planned parenthood work. Last year the natural rate of population increase for the prefecture as a whole fell from 19.8 per 1,000 to 11.37 per 1,000.

9432

CSO: 4007/520

ACHIEVEMENTS IN SCIENTIFIC COTTON-GROWING SKETCHED

Beijing RENMIN RIBAO in Chinese 27 Jul 82 p 2

[Article by Jiangxi Provincial CCP Committee secretary, Liu Chunxiu [0491 0193 4423]: "Look to Science for Cotton; Depend on Science To Win High Yields"]

[Text] Editor's Note: A look at scientific cotton farming in Jiujiang Prefecture, Jiangxi Province shows that a huge craze for the study of science is brewing in rural villages. Reliance on science to win high yields has become an inexorable trend in the development of agriculture, and it is the responsibility of leaders at all levels to give wholehearted and enthusiastic support to the demands of the masses as well as to provide careful organization and direction.

After rural villages completely establish various forms of production responsibility systems, and particularly in places practicing "double contracting" to the households [fixing output quotas on individual households with households assuming full responsibility for task completion], will it be possible to apply and spread the fruits of agricultural science and technology? In facing myriad households, how should one go about the popularization of scientific agricultural techniques? This is a problem that people are commonly concerned about at the present time. During late May and early June this year, I conducted an investigation of these problems in Jiujiang Prefecture, where I found that numerous moving examples of the broad masses of cotton growing peasants and grassroots level cadres studying science and using science, and relying on science to win high yields provided very good answers.

During the past 3 years, Jiujiang Prefecture's ginned cotton output has climbed from the 340,000 dan of 1978 to 536,000 dan in 1981, averaging a 16.7 percent increase annually. Yields per unit of area rose from 61 jin to 89 jin. Both were all-time highs. An important reason for such rapid development of cotton production in Jiujiang Prefecture during the past several years has been, the establishment of various forms of production responsibility systems aside, the whole-hearted support given by all levels of CCP committees and government for the urgent need of the broad masses of cadres and people to study science and use science, and the strong attention devoted to popularization of scientific farming by the myriad households.

Ever since Jiujiang Prefecture established various forms of production responsibility systems of which "centralized administration with expected output linked to individual workers" and "double contracting" to households were the dominant forms, the broad masses of cotton growing peasants realized increasingly deeply that in order to win high yields and increase their incomes fairly substantially, sole reliance on enthusiasm and hard work was far from sufficient. They would have to depend on science as well. The numbers of peasants urgently demanding a grasp of scientific cotton-growing techniques became increasingly great, creating an unprecedented atmosphere of conscious study. In order to master the fundamental knowledge about cotton production and the new cotton-growing techniques, they searched everywhere for materials, bought books and periodicals, and sought the advice of master workers. Leading comrades in the several counties I visited said, "Commune members used to dislike cadres for talking too much, but now they hope cadres will give direction. Farm technicians, in particular, are much sought after. Formerly when meetings were held, they sat in a 'cold corner' but now commune members 'pull farming into the corner.'" Once farm technicians begin to teach a class in techniques, 100 people are notified and 200 or 300 show up. Wulian Production Brigade in Furong Commune, Pengze County has 750 households. Originally the production brigade planned three runnings of a class for household heads, 250 people to a running. In the end, between 400 and 500 people showed up for the first running and the classroom could not hold them all, so a system of "issuing certificates for entry" had to be adopted. This year, Pengze County has trained a total of more than 70,000 party member, cadre, and household head attendees and has printed and distributed 150,000 copies of farm technician teaching materials. Still it has been unable to satisfy the needs of the masses. Accompanying the deepening of the mass movement to study science has been the appearance throughout the prefecture of a group of "stand out" households, one after another. At Wanhua Production Brigade in Wanhua Commune, Duchang County, female commune member Yu Caijin [0151 1752 6855] contracted last year for 2.8 mu of low cotton yield red soil. Her husband, an accountant in a commune and brigade enterprise, had some scientific and cultural background. With the help of her husband, she voraciously studied scientific cotton growing techniques and succeeded in wresting yields of 210 jin per mu of ginned cotton from the soil. Commune members respected her scientific level of growing cotton and envied more her 1,000 yuan income. They came to her door in a steady stream to gain experience. Communes and brigades from as far away as Lin County came running to ask her to teach them her high yield experiences. In their study of science, the masses are interested in genuine results. Whenever there is some technique for increasing yields that brings quick results and that can be put to use, they act at once to use it, and are willing to make the effort and lay out the capital. This year commune members in Daqiao Commune, Ruichang County built more than 500 small boats, which they sent out on the lake to collect grass in preparation to fight drought, guard the cotton against premature deterioration, and harvest more cotton bolls in autumn. Commune members at Gangkou Commune in Jiujiang County personally bought more than 100 flatbed trucks, which they drove several tens of li to collect manure so as to provide their cottonfields with more barnyard manure. The several hundred tons of phosphate and potash that have been additionally moved into each county this year have been entirely bought up by commune members. Some have gone everywhere to buy fine varieties at a high price in a change to fine varieties. Every technique has received the serious attention of commune members everywhere. Some commune members frequently

quietly observe technician and cadre experimental fields to see what new ideas they have for increased yields and what new pesticides they have to treat insect pests.

"Look to science for cotton and depend on science to win high yields" is the slogan that was raised immediately following stabilization of production responsibility systems. During the past 3 years, Jiujiang Prefecture has actively relied on farm technicians. They have devoted attention to conventional cotton-growing techniques and have promoted Pengze County's cotton-growing experiences for full stands that develop early through scientific fertilization, and have given attention to a series of cotton-growing experiences on plains areas for the prevention of disease and the elimination of insect pests. From the more than 90,000 mu of cotton in this county, yields per unit of area have risen from 61 jin in 1978 to 109 jin in 1980. Last year, in particular, more than 80 percent of the cottonfields in the county promoted the "three sprayings" (leaf surface spraying of dihydrogen phosphate, spraying of boron, and spraying of cyocel), and the "two applications" (general application of boll formation fertilizer and increased application of potash fertilizer), which are new techniques. Yields of ginned cotton per unit of area increased to 123.4 jin, making it the highest yields per unit of area county in the province. After Jiujiang Prefecture had spread Pengze County's experiences, it changed the slapdash care of cotton that had been practiced for a long period of time, and the passive situation of reduced yields resulting from disease and insect damage.

Duchang County, located in a hilly region, grew somewhat more than 100,000 mu of cotton, all of it on red soil hills. For a long time cotton yields have been very low. Since 1979, the Duchang County CCP Committee has earnestly summarized the lessons of experience of longterm low yields and has striven to explore the laws governing cotton growth in the hill region, coming up with a series of experiences involving "giving attention to density and earliness" (suitably close planting for increased yields from colonies) for the promotion of early ripening varieties and scientific fertilization to produce high yields. Following all around promotion of these experiences, within 3 years total output of ginned cotton has averaged annual increases of 32 percent. From the more than 1,300 mu of cotton in Wanhui Production Brigade in Wanhui Commune in this county, yields of ginned cotton per unit of area have been 151 jin, more than that of many high yield cotton growing areas on the plains. The broad masses of cadres and commune members said it well when they said: "By mastering science it has been possible to grow cotton on the low yield red soil hilly fields. No longer are their low yields one's whole life long; with fervent heart and skillful hands high yields are possible."

Right now in the rural villages a tremendous enthusiasm to study science is brewing. It is the responsibility of all us leaders at all levels to promptly, fully, and enthusiastically to lend support to the demands of the broad masses of rural cadres and people, to organize carefully, and to strengthen direction so that the movement throughout the farflung rural villages of the province to study science and use science develops widely, deeply, and continuously.

1. Need to Develop Firmly a Guiding Mentality of Reliance on Science

For many years we have relied on administrative methods to manage agriculture, and we have given little consideration to how to use economic and technical

methods. The issue of agriculture's reliance on science has not received the serious attention it deserves. Serious proportional imbalance exists among the development of agricultural production and agricultural research, technical promotion, and cultural education. Following the Third Plenary Session of the 11th party Central Committee, we have had a fairly good understanding and solution of the problem of reliance on policies, and we have won many accomplishments. However, as regards the problem of reliance on science, we have to yet to devote sufficient serious attention. As the situation develops, the problem of agriculture's reliance on science becomes ever more pronounced. As a result of the longterm erroneous "leftist" influence, many comrades have a muddled mental perception. They suppose that "scientific farming and the popularization of agricultural science and technology is a matter for technical personnel"; so long as a good job is done on responsibility systems, production will rise naturally." Some even say that "with water and fertilizer to farm the fields, what need is there for technicians?" Consequently, we must constantly clear away the erroneous "leftist" influence and solve the problem of reliance on science first of all in conceptual terms. In Jiujiang Prefecture, it was only as a result of rather good solution of this problem that leaders seized the initiative in production to win a heartening situation of consecutive year increases in cotton production throughout the prefecture. Leading comrades in the Prefecture CCP Committee and government administrative offices both inspired the indoctrination of responsible comrades at all levels in a thoroughgoing understanding of the importance of studying science and using science, but also earnestly practiced what they preached, personally listening to lectures on techniques given by agricultural technicians, going into production brigades to help improve work and gain firsthand experience, and farming scientific experimental fields thereby effectively giving impetus to the launching of a campaign of studying and using science in rural villages throughout the prefecture. Statistics show that principle leaders at the prefecture and county levels farmed more than 80 mu of high yield experimental cotton fields, and that commune cadres farmed a total of 326 mu of experimental fields.

2. Need To Establish an Agricultural Science and Technology Promotion System

Jiujiang Prefecture's economy has demonstrated that establishment from top to bottom of an agricultural science and technology promotion system is an organizational assurance for doing a good job of agricultural science and technology promotion work. Through the use of methods such as mobilization of the return of people to units, fitting jobs to specialized training, and augmenting personnel, the prefecture first beefed up the county farming techniques promotion stations. At the prefecture, county, and commune levels, farming techniques promotion organizations were established, and production brigades and production teams designated one or two people responsible for farm techniques promotion work in preliminary establishment of a four level promotion network consisting of the prefecture, counties, communes, and production brigades and teams. All jurisdictions reported that the establishment of this organization and the designation of personnel played a very good role in production and that particularly after the launching of a mass movement to study science, agricultural technicians came to be generally highly regarded by organizations at all levels and were welcomed by the peasants, being frequently asked to "hold classes on techniques," "give on-site guidance," and act as "staff officers" or "advisors."

3. Need To Adopt Methods That Link Specialized Units and the Masses With the Goal of Training Double Track Technical Forces: the Existing Cadre Corps Specialized in Farming Techniques, and a Technical Corps Consisting of Millions Upon Millions of Peasants.

The peasants urgently need science yet the existing number of farm technicians is seriously inadequate. This is a problem that exists in every county. As a result, we must first rely on existing farm technicians, showing concern for them politically, supporting them in their work, and looking after their livelihood to make the most of their active guiding role in the popularization of scientific techniques. An overwhelming majority of locales have begun to give serious attention to this work. However, overall, still further improvements are awaited in the work of utilizing farm technical cadres and implementing policies pertaining to intellectuals. The serious lack of farm technicians in rural villages should arouse the serious attention of CCP committees and governments at all levels. Statistics show that in Jiangxi Province, there are only 1.3 farm technicians per 10,000 peasants, and for every 10,000 mu of farmland there are only 1.2 farm technicians, greatly below the national averages. Many places have reported that because of the shortage of farm technicians, good experiences cannot be summarized and new techniques cannot be spread. Consequently, we must strive on the one hand to operate well the existing agricultural institutions of higher learning and the secondary schools specializing in agriculture to train up with all possible speed the various kinds of technicians that the rural villages need. On the other hand, it is necessary to quickly train grassroots rural cadres and production hands and educated youths from among the peasantry to turn them into a major force that can be used in rural villages to promote scientific agricultural techniques, develop production, and carry forward the building of the four modernizations. This is because most of them already possess a certain cultural level, and a considerable number have rather rich practical experience in production. All that is necessary is for us to organize their training in a planned way and quite a few of them will be able very rapidly to become mainstay cadres for the promotion of agricultural technology. The problem lies in making up our minds to do it.

4. Need To Persist in Proceeding From Realities in the Promotion of Science and Technology Making Sure That Methods Are Diverse and Actions Flexible

(1) In the use of diverse forms to popularize knowledge of cotton-growing techniques, it is necessary, first of all, to run technical training classes level by level. Right now Jiujiang Prefecture is training 70-odd commune cadres, and every county has trained once all cadres above the production brigade level. The amount of training given to production team leaders and heads of household below the commune level has been even greater. Second in use of broadcasts, notices on techniques, night schools, wall newspapers, scientific and technical reports, technical advice, the printing of materials, technical discussions, and technical symposia, 10 different forms that the masses delight in hearing and seeing, to widerangingly publicize knowledge about cotton production and about new cotton growing techniques, and to summarize and exchange experiences.

(2) Establishment of scientific cotton planting "demonstration households," and "link-up households" [presumably households in which compensation is linked to output] lined to cadres staying at selected grassroots units to help improve work and gain first hand experience for guiding overall work. In Jiujiang Prefecture today, generally every production team has one or two households that are "demonstration households" for the growing of cotton and "link-up households" with links to cadres. An overwhelming majority of them are locally outstanding in production and constitute a vanguard in rural study of science, performance of scientific research, and in application and promotion of scientific techniques. The establishment of these demonstration households and link-up households has not only played an active role in the promotion of scientific production techniques in all areas by drawing on experience gained at key points, and in spreading techniques from households to villages, but has also changed cadre workstyles and cemented relations between cadres and the masses to play to a major role in giving impetus to all kinds of work in rural villages.

(3) Trial specialized technical contracting. Acting on the principle of "centralization of whatever should be centralized, and decentralization of whatever should be decentralized, and from a foundation of disease prevention and insect pest eradication for plant protection, each of the counties in Jiujiang Prefecture have done centralized monitoring of insects, centralized purchasing of pesticides, centralized formulating of pesticides, centralized direction, centralized action, and decentralized household by household use of pesticides for "five centralized and one decentralized" in active promotion of technical measures through specialized technical contracting. Last year Yongxing Commune in Yongxiu County organized a plant protection service company, which contracted disease prevention and insect pest eradication tasks for the commune's entire 5,000 mu of cotton fields. The practical result was a 44.7 percent decline in the per mu cost of pesticides, a more than 94 percent increase in effectiveness of prevention and control, and a 45 percent increase in cotton yields, which passed the 100 jin per mu mark for the first time.

Right now a mass craze for studying science, using science, and discussing science has sprung up vigorously in the farflung rural villages, and reliance on science to win high yields has become an inexorable trend in the development of agriculture. We leading comrades at all levels must courageously shoulder the heavy burden of developing agricultural production throughout the province, and make the individual contributions we should make to the modernization of agriculture.

SUMMER GRAIN PROCUREMENT INSTRUCTIONS GIVEN

Yinchuan NINGXIA RIBAO in Chinese 8 Jul 82 p 1

[Article: "Grain Departments at All Levels Called Upon To Do a Good Job in Preparing for Summer Grain Procurement and Storage; Autonomous Region Grain Bureau Holds Summer Grain State Procurement Conference"]

[Text] At the end of June, the Autonomous Region Grain Bureau convened a regionwide summer grain state procurement conference, which called upon grain departments at all levels to do a good job in the various preparations required for storage of grain and edible oils, and to assure fulfillment of this year's summer grain state procurement quotas.

The conference acknowledged that the summer grain production situation in the Yinchuan area of the region is very good. If no disasters take place, it is anticipated that a bumper grain harvest will be reaped. In accordance with state requirements and base figures set by the autonomous region for household assumption of full responsibility for task completion, each of the counties in the Yinchuan area will be able to fulfill or overfulfill this year's summer grain in terms of state procurement, purchase, and quota over-fulfillment. Consequently, all city and county grain departments must make all necessary preparations to accept the grain and to cope with the high tide of summer grain going into storage.

The conference pointed out that inasmuch as more than 90 percent of rural villages in the autonomous region have instituted production responsibility systems of large-scale assignment of responsibilities, following the change from sales of grain to the state by production teams to sales to the state by individual households, the work involved in taking in grain for storage has increased tens or several tens of times. All levels of grain departments are to organize sufficient manpower and material resources, delineate areas and designate sites, forecast sales, arrange to take in all that arrives, remove all grain on the day of receipt, and complete the movement of summer grain to storage in an organized, planned, and orderly way. In addition, policies on the setting of prices on the basis of quality are to be enforced strictly, and there is to be no depreciation of quality in order to drive down prices, nor is there to be any jacking up of quality in order to raise prices. Final accounting for grain and oil purchases is to be done on the

basis of specific regulations from individual county CPC committees and people's governments. Peace preservation and public security work is to be intensified to avoid accidents of various kinds.

The conference noted that in order to assure smooth completion of summer grain state purchase tasks, all jurisdictions should intensify grain market management. Any who have not fulfilled their summer grain state procurement quotas may not take summer grain to markets. Commune member households and production teams that have fulfilled or overfulfilled their summer grain state procurement quotas and who have surplus grain they want to offer for sale, may sell to granaries at negotiated prices. During the period when grain is going into storage, summer grain markets are not to be open so as to assure smooth performance of the "three summer jobs" [harvesting, planting, and field care] and overfulfillment of summer grain state procurement tasks. Commodity grain and oil can be handled only by grain departments, and other departments or units may not intervene, nor may they go into rural villages and country fair markets without authorization to purchase grain and oil. In all jurisdictions, industrial and commercial administration and management, grain, public security, and transportation departments are to coordinate with each other, administer grain and oil markets, and resolutely strike down speculation and profiteering. All cases involving use of motorized vehicles in the resale of grain and oil in violation of the law shall be strictly dealt with following investigation and apprehension. Personnel who render service in the apprehension of speculators, profiteers, and those involved in the smuggling of grain and oil are to be given specific bonuses by grain departments.

The conference asked that following overfulfillment of summer grain state procurement quotas, grain departments at all levels promptly organize personnel to go into markets and into communes and brigades to actively carry out purchases of grain and oil at negotiated prices in accordance with the principle of slightly lower than the market price prevailing in areas along the way for active performance of grain and oil purchases at negotiated prices. All grassroots level granaries (or stations) are to publicize the negotiated grain purchase method and prices so that the broad masses will not worry.

ECONOMIC EFFECTIVENESS OF MECHANIZATION EMPHASIZED

Yinchuan NINGXIA RIBAO in Chinese 8 Jul 82 p 2

[Article by Feng Longjiang [7458 7893 3068]: "Take Firm Grip on Ways and Links for Improvement in Economic Effectiveness of Farm Mechanization"]

[Text] In his government work report to the Fourth National People's Conference, Comrade Zhao Ziyang pointed out that "When we think about economic problems, it is necessary to use as our point of departure improvements in economic effectiveness." Farm mechanization work is no exception. This goal is synonymous with our mechanization of agriculture.

Numerous factors enter into the economic effectiveness of farm mechanization, and ways in which to improve its economic effectiveness are also many faceted. However, many years practice have shown the crucial importance of whether or not agricultural mechanization programs are correct.

As a result of nearly 30 years of effort, our agricultural mechanization endeavors possess a fine foundation. The "Summary of the National Rural Work Conference" pointed out that "China's farmland system is complex; work forces are legion; collective economic forces are weak, and agricultural mechanization must be done selectively and step-by-step. For a considerable time in the future, mechanization, semimechanization, and use of hand tools must proceed in tandem; manpower, animal power, and electro-mechanical power used at the same time; and a combination of engineering measures and biological techniques employed at the same time. All jurisdictions should promote appropriate techniques and intensive farming on the basis of their own circumstances." This will be the program for the mechanization of China's agriculture for a fairly long time to come. It is compatible with both national circumstances and with circumstances in Ningxia Province, and is, without doubt, the agricultural mechanization program that the Ningxia Autonomous Region will follow for a fairly long time to come. Let us speak of our own region. Economic and natural conditions differ from one county and municipality (suburbs) to another. In addition, crop patterns and farming techniques are complex. There have to be priorities for agricultural mechanization, and step-by-step selective promotion of proper farm implements. In rural villages within the Huang He diversion irrigation area, economic standards are fairly high and natural conditions fairly good, so mechanization can proceed a little faster. But in the arid mountain regions, economic

conditions are poor and peasant purchasing power low. There is drought with scant rain, and the heavens must be relied upon to get enough to eat, so mechanization will be slower. Even within the same prefecture and same county or municipality, inasmuch as objective conditions differ and the extent to which peasants demand mechanization differs, the speed of mechanization will differ.

At the present time the central tasks in the management of agricultural mechanization are as follows: The need to place economic effectiveness from agricultural mechanization in the paramount position, and to make a focal point of the preservation of collective property and good management and use of existing farm machinery. In addition, it is necessary to selectively promote proper use of farm machines on the basis of needs and capabilities.

We already possess a fairly impressive number of farm machines. As of the end of 1981, the autonomous region owned more than 23,500 agricultural tractors of various kinds, and farm machinery horsepower totaled 1,246,000 horsepower, accounting for 80 percent of combined machine and animal power, figuring 440,000 draft animals (converted into 330,000 horsepower). For each 10,000 mu of cultivated land, there is 375 horsepower provided by tractors. This is higher than the 360 horsepower national average. However, since these machines are scattered on communes and brigades throughout the region, and since peasant cultural and technical levels are still relatively low and differences in objective conditions fairly great from place to place, many difficulties and problems exist in the management of their use, in supply services, in technical training, in equipment maintenance and repair, in their safe use in production, in technical promotion, and in scientific research on farm mechanization. In addition, institution of diverse responsibility systems for use and management of farm machines, and development of the purchase by groups of peasant households and individual peasant households of small farm machines makes good management and use of these farm machines a very strenuous task. In the course of the restructuring of the rural economy, no reduction has taken place in farm mechanization management duties; rather it has become more strenuous. Not only can it not be weakened, but rather it should continue to be strengthened. Specifically, the following is to be done:

First, continued building and perfecting farm machine use and management responsibility systems. This is a key link in the region's current farm mechanization management work. All levels of farm machine management departments should help farm machine stations (service stations), and teams further summarize experiences in the division of profits and the division of income in the responsibility system whereby anticipated output is linked to remuneration, and gradual promotion of these experiences. Good solution to existing abuses in "responsibility contracted for one thing, but no concern being shown for 100 others" (contracting of farm machines to individuals) with promotion of a contract system of "one, responsibility for fields; two, responsibility for money; three, responsibility for machine condition; and

four, responsibility for safety." In production teams practicing "double contracting of responsibilities" [fixing output quotas on a household basis with peasant households assuming full responsibility for task completion], particularly in the case of large and medium farm machines under centralized collective management, effectiveness should play a role.

Second, planned readjustment and reorganization of commune farm machine stations. Where conditions permit, commune farm machine management stations may be gradually merged with farm machine stations into management and service stations to render all around services in supply, management, repair, farming on commission, training, and credit, with independent accounting and responsibility for their own profits and losses, making them play a better role.

Third, efforts to improve and intensify farm machine technical training, with gradual spread of technical training on small farm machinery to satisfy to the maximum extent possible peasant demands to learn farm machine technology. Planned rotational training of farm machine management cadres at all levels, and preparing teachers for municipal and county farm machinery schools in order to create conditions for improvements in farm machine management standards and quality of technical training.

Fourth, institution of the coexistence of various forms, with collective farming predominating to bring into play the enthusiasm for mechanization of both collectives and individuals. In addition to managing and using well collectively administered farm machines, all levels of farm machine management departments should actively help the peasants manage and use farm machines that groups of households or individual households have purchased.

Fifth, strive to improve the technical state of readiness of tractors and internal combustion engines, to strengthen management of fuels, and to actively promote new techniques for saving fuels to give further impetus to fuel conservation. It is also necessary to devote further efforts to farm machine zoning work, technical promotion work, safe production, and to technical and economic research on farm mechanization.

In addition to good management and good use of existing farm machines, we should also realize that as a result of the implementation of rural economic policies and the institution of various production responsibility systems that have advanced agricultural production and the gradual growth of the rural economy, and have gradually increased peasant purchasing power, some suitable farm implements are required. It is suggested that departments concerned organize their production and supply, and give attention to improving their quality and to lowering their cost so as to satisfy peasant needs for smallness, goodness, and small expenditure of money.

INCREASED GROWING OF SUGARBEETS REPORTED

Yinchuan NINGXIA RIBAO in Chinese 8 Jun 82 p 1

[Article: "Huang He Diversion Irrigation Area Sugarbeet Growing Area Tremendously Increased"]

[Text] Thanks to the serious attention given by all levels of leaders, this year the area planted to sugarbeets in the Huang He diversion irrigation area has increased tremendously. Incomplete statistics show a total of more than 112,000 mu sown to sugarbeets this year (more than 36,000 mu of which were intercropped), more than double last year's area.

This February the Autonomous Region Bureau of Agriculture and the Agriculture and Land Reclamation Bureau jointly convened a sugarbeet production conference to discuss and solve some problems in production and state purchases of sugarbeets. The Autonomous Region People's Government then issued "Notice on Attention to Sugarbeet Production," requiring sugarbeet producing areas to actively develop sugarbeet production. All major sugarbeet production counties (or prefectures), and state farms used various means of transmitting the spirit of the conference to the masses. By way of solving peasant difficulties in selling sugarbeets, Helan County decided to establish purchasing points in Xigang, Panchang, and Ligang communes, which relieved commune member apprehensions and resulted in the county overfulfilling its sugarbeet planting tasks. Yongning and Qingtongxia counties also convened on-site sugarbeet production conferences to which they invited old peasants and peasant technicians to impart their experiences and techniques for sugarbeet production. In order to increase sugarbeet sprouting rates, Huang He diversion irrigation area state farms disinfected seeds with pesticides. The Yinchuan Sugar Refinery sent 51 cadres and workers to the grassroots levels to help implement plants and to set up more than 10 sugarbeet seed supply points as a convenience for the masses.

Right now the young sugarbeet seedlings are growing rather profusely. As temperatures climb, xiangjia [585E ?] and moles increase. All jurisdictions are intensifying field care and working at the prevention and control of diseases and insect pests.

WATER CONSERVANCY PROBLEMS ANALYZED

Use of Reclining Wells

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 2

[Text] In the course of struggle against drought this year, Dongdianhou Production Brigade in Longquan Commune, Mouping County built a reclining well that was 20 meters long and could raise ground water at a rate of more than 100 cubic meters per hour. It was constructed by digging a ditch to collect water in a river bed and lining it with stones. Its shape resembled a siphon layed on its side, the difference being the need for seepage. It has five advantages.

1. It collects much water and is very effective. No walls to prevent seepage are built in reclining wells, and the cross section area for seepage into the well is large. Underground water flow in the upper and lower reaches, and above ground flow in the upper reaches is able to seep into this well; thus, its capacity to intercept and collect underground flow is great. All other circumstances being equal, its ability to intercept and hold water is several times greater than any other method.
2. Construction is simple and investment is economical. Reclining wells use loose stones layed up without mortar, the stones encompassing three sides. Little money is spent and it can be built by 80 to 100 people.
3. High adaptability. All that is needed is a sandy layer and any river can be used whether, large, small, new or old. It is not affected by topography or other structures.
4. It can be transformed from a temporary project to combat drought into a permanent project for combating drought. When fighting drought, a temporary water catching ditch or pool is dug in the bottom of the river bed. If, during use, the water table drops, it may be filled with stones. Later it can be used every year for a saving in manpower required for digging, and fuel needed to pump water.
5. It saves land, does not impair the flow of floodwaters through the river bed, does not affect the farming of the fields, and the project is out of sight and not easily damaged.

The building of reclining wells is very easy. They are made of two main parts: a corridor to channel water and a vertical shaft to hold water. The corridor to channel water is the reclining part of the well. It is like the strainer in a well, i.e., the flared pipe [5363 4619] part. The function of this part is to collect underground flow. Its principal requirements are sturdiness with no collapsing or toppling, permeability to the flow of water on three sides, and allowing silt and water to enter but not allowing sand to pass. The function of the vertical water holding shaft is to connect the corridor to channel water to the ground surface so that the siphon on a water pump can go through into the corridor channel so the water can be pumped.

Centralized Management of Projects

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 2

[Text] Yanggu County has improved its ability to fight drought through the process of perfecting its production responsibility systems of double contracting [fixing output quotas on a household basis, peasant households assuming full responsibility for task completion], by giving attention to making the most of the superiority of the collective economy, through centralized management and use of large water conservancy facilities and machines, and by properly readjusting some scattered fields for which responsibility had been assigned. Despite this year's serious drought, a bumper wheat harvest was reaped from the county's 350,000 mu.

In Yanggu County, more than 90 percent of all production teams have instituted the "double contracting" production responsibility system, which has stimulated the enthusiasm for production of commune members. However, some communes and brigades divided some of their large water conservancy equipment among commune members with the result that they were unable to play their full role. Because it was difficult to use some of this equipment, it was allowed to lie idle, which hurt the "double protections" in fighting drought. Since the lunar new year, the County CCP Committee and county government have organized cadres and the masses for diligent study of the "Minutes of the National Rural Work Conference," and have helped communes and brigades to adapt general methods to specific situations to harmonize the relationship between centralization and contracting, putting under centralized management and use by production teams all large water conservancy facilities and equipment. For newly built water diversion channels, bridges, culverts, and gate gates, pumping stations, underground conduits, and such mainstay projects, depending on the size of tasks and the size of the area receiving benefits, the production team set the amount of labor each member of the workforce had to perform, work being done on the basis of available workforces with responsibility on the basis of the number of mu served. Management and care of all water conservancy machines was the responsibility of persons specifically designated by the production team, who took care of specific machines, had specific tasks, had specific expenses, and who received specific compensation and bonuses. Watering was under the centralized

direction of the production team, and vocational teams or responsibility households took turns using it. Whoever used machines was responsible for the machines. Diesel fuel expenses and maintenance and repair expenses were the responsibility of the production team. In addition, the masses were indoctrinated in an increased conception of the collective and in doing a good job of banding together for mutual help. As a result of the use of these methods, the in-service rate for pump wells throughout the county rose from the former 67 percent to 90 percent, and benefits obtained from individual wells rose from the former average 50 mu to 70 mu.

By way of adapting to large water conservancy facilities and pump well watering, this county also readjusted and merged some fields for which responsibility had been assigned that were overly scattered or exceedingly small. Before fall planting last year, a method was universally instituted to make conversions to standard mu, i.e., fields were converted to standard mu on the basis of their soil quality, soil fertility, distance from the village, production conditions, and yields over the years, and wheatfields were appropriately concentrated. Following readjustment, the county's responsibility fields declined from the former somewhat more than 70,000 plots to 4,100 plots and the water utilization rate was increased by one-third over what it had been. The wheatfields of Guodiandun Commune had been divided into 2,520 plots for the past several years, one plot in the east and another in the west. Ditches from wells had to travel around several corners before reaching the fields with very much runoff taking place along the way. Last year at fall planting time, this commune concentrated its scattered fields into square plots, reducing the number to 210, each plot divided by well defined ridges of earth. Where formerly the water recycling time had been more than half a month, it was now only 7 or 8 days. Faced with this year's severe drought, this commune made full use of the role of water conservancy facilities, the 14,000 mu of wheat in the commune receiving sufficient water on time. Yields reached 630 jin per mu, a 212 jin increase over last year.

Construction of Water Projects

Jinan DAZHONG RIBAO in Chinese 6 Jul 82 p 2

[Text] In a new situation of institution of production responsibility systems, Taian Municipality's rural villages have relied on collective strength to continue to do a good job of water conservancy construction, effectively increasing its abilities to withstand natural disasters.

Of Taian Municipality's 6,221 basic accounting units, 94.9 percent have set up "double contracting" responsibility systems linking planned output to workforces. Under these circumstances, how could the capital construction of farmland water conservancy continue? All communes and brigades used a system of several centralizations. One was adherence to centralized planning. Proceeding from the foundation of a general survey of water conservancy resources, and following the principles of adapting general

methods to local situations and acting in accordance with strength and ability, they planned one by one what projects would be built at what places and at what times. Second was adherence to centralized assignment of workforces. In units practicing the linking of expected output to workforces and fixing output quotas on a household basis, production brigades and production teams took account of the workforces available in each household in planning for workers on capital construction projects and where they would be assigned in any given year. In units practicing large scale assignment of responsibilities to individual households, capital construction work was evenly spread among workforces, those exceeding quotas receiving bonuses, and those failing to complete quotas being penalized. Third was adherence to the funds and materials required by water conservancy projects that had been centrally obtained by the collective. In this way the superiority of the collective economy was brought into play, and smooth progress on all water conservancy projects was assured. After the Mujiashuang Brigade in Zhuyang Commune instituted a responsibility system linking expected output to workforces, the collective invested 27,000 yuan in a water conservancy construction plan, bought cement, steel rods, and such materials, centralized organized workforces for work, and very rapidly built a pumping station that had a 250 meter long aqueduct and a 40 meter long stone ditch to irrigate an area of 500 mu. Along this tract of fields, not only was the wheat watered twice this year and a fine harvest won, but the spring and summer sown crops were also sown on time. After Ligu Production Brigade in Daolang Commune instituted a responsibility system of large scale assignment of responsibilities to each household, it apportioned work on capital construction on the basis of workforce strength, and provided for an 0.80 yuan payment by the collective for each additional worker supplied for capital construction, with an 0.80 yuan fine for each capital construction worker not provided. This stirred commune members enthusiasm for participation in water conservancy construction and, since last winter, commune members throughout the production brigade joining in the capital construction work have numbered 10,000. They have sunk five new pump wells and have leveled part of the land for new increase in ability to fight drought.

In the course of the water conservancy construction, the Municipal CCP Committee and municipal government provided appropriate support to those units experiencing genuine difficulties, thereby assuring a large amount of municipal water conservancy, rapid progress, and high benefits, not only completing slop protection on Shengli Reservoir, improvements to the Shengli irrigation channel, construction of the western trunk channel for Caishan Reservoir, the grouting of the Huangqian Reservoir dam, and such large and medium size project construction and equipping, but all sorts of small water conservancy projects also got under way in extremely large numbers. As of mid-June, throughout the city 345 pump wells had been newly sunk, 525 pump wells equipped, and 2,405 small wells newly sunk. A total of 1,085 projects involving the building or repair of reservoirs, pond dams, pumping stations, river diversions or spring diversions had been started, and 651 of them completed. Newly build irrigation ditches numbered 479 totaling 188 kilometers in length. The building of these projects has expanded the irrigation area by 55,000 mu and improved an irrigation area of 113,000 mu.

SPECIALIZATION ENCOURAGED FOR COTTON INSECT CONTROL

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 2

[Article: "Encourage Specialized Machine Control of Insect Pests in Cottonfields"]

[Text] Insect pests persist for a long time and spread fairly quickly while cotton is growing. Left uncontrolled for a few days, they become a disaster. As a result, much manpower and intensive labor is required to control insect pests, and chances for accidental poisoning from pesticides are also fairly great.

In order to solve this problem, ever since 1979 the Provincial Farm Machinery Bureau has run pilot projects in the mechanization of cotton plant protection, principally on insect control, at seven major cotton producing counties. A look at the pilot project situation shows that the best way to do a good job of controlling insect pests of cotton and avoid the accidental poisoning of people is to institute specialized machine prevention and control in a change away from every family buying pesticides, every household storing pesticides, and every person controlling insects. Practice has demonstrated the advantages of specialized machine control of insects to be as follows: First is high labor efficiency, prompt prevention and control, and good effectiveness in killing insects. A single hanging-arm sprayer can spray 250 mu per day, and a single Taishan 18 misting machine can spray 70 mu per day, a 55 fold and a 14 fold increase in labor effectiveness respectively, as compared with hand methods of insect control. Effectiveness of prevention and control is better than hand methods. Second is a saving in labor and expense. Specialized machine control of insects results in a decline in expenses by about 20 percent as compared with hand methods, and a more than 90 percent saving in labor. Two years experience at the Laozhaozhuang Production Brigade in Laozhaozhuang Commune, Linqing County has shown that it costs between 10 and 12 yuan per mu to control insects by hand while the cost for specialized machine control of insects is 8 to 9 yuan per mu, between 2 and 3 yuan less than hand methods. Formerly this production brigade annually had more than 200 people engaged in control of cotton insects. This amounted to more than 30 percent of the brigade's total workforce. Ever since 1980, 2 hanging-arm sprayers have been used requiring only 6 fairly highly skilled operators to do this task for a saving of more than 95 percent on labor.

Third is benefits in preventing accidental poisoning of people. Control of insects using specialized machines results in a great reduction in the numbers of people coming in contact with pesticides. Furthermore, operators undergo training and possess a certain amount of plant protection knowledge and operating skill. Additionally, they are well protected, so safe production can be done.

9432

CSO: 4007/502

PROVINCIAL CONFERENCE ON MOUNTAIN REGIONS HELD

Jinan DAZHONG RIBAO in Chinese 4 Jul 82 p 1

[Article: "Provincial Mountain Region Work Conference Held At Wulian. Treats Development and Building of Mountain Regions as a Strategic Task. Provincial CCP Committee and Provincial Government Comrades in Charge, Bai Rubing [4101 1172 0393], Li Zhen [2621 2182], and Zhou Zhenxing [0719 2182 5281] attend Conference"]

[Text] On 3 July, the provincial CCP Committee and provincial government convened a provincial mountain regions work conference at Wulian County. Provincial CCP Committee First Secretary Bai Rubing hosted the conference. Provincial CCP Committee secretary and Deputy Provincial Governor Li Zhen, and Deputy Provincial Governor Zhou Zhenxing, comrades in charge in all prefectures, municipalities, counties, and relevant units directly subordinate to the province, as well as representatives from some advanced communes in some mountain region communes and brigades, for a total of 264 delegates, attended the conference.

Since the Third Plenary Session of the 11th Party Central Committee, CCP committees and government at all levels in the province have diligently carried into effect a series of Central Committee programs and policies on economic construction, and in Yantai and Weifang prefectures, where conditions were fairly good to begin with, the march toward prosperity has been hastened. The four northwestern prefectures, which have long been in a backward state, have taken great strides to catch up. Although many changes have taken place in the mountain regions of south central Shandong, relatively speaking they are prefectures in which economic development is still relatively weak. In Shandong Province, mountain regions account for more than one-third of the total area. They cover a vast land area and contain a large population. Resources are abundant and the potential is very great. Most of these places are old revolutionary bases, which made a relatively great contribution during the war years, but in which the standard of living of the masses today is still relatively low. Consequently speedy transformation of the situation in mountain regions, development of the mountain region economy, and helping mountain region to become prosperous has become a decision of strategic significance in the deepgoing implementation of the party's line, programs, and policies since the Third Plenary Session, and in the further readjustment of the structure of agriculture to

hasten rural economic construction. The conference acknowledged that only by doing a good job of developing and building mountain regions, and particularly doing a good job of planting trees for afforestation, could erosion be effectively prevented, the ecological balance be maintained, and all around development of economic diversification in farming, forestry, sideline occupations, and fisheries be advanced to solve the province's "hemiplegia" problem in agriculture. Building of the mountain regions relates to the overall situation of the province as a whole, and possesses major economic and political significance. Formerly construction of the mountain regions did not develop very fast in some places, and though there were many reasons for this, the main ones were slowness to understand and insufficiently vigorous action on the part of leaders. The current conference is a major step taken by the Provincial CCP Committee and the provincial government toward hastening change of the situation in mountain regions. The conference called upon relevant units throughout the province, and all levels of CCP committees and government in mountain regions, to intensify the sense of urgency and sense of responsibility about hastening mountain region construction and to make construction of mountain regions a focus of their work, to diligently summarize experiences, to rouse and lead the broad masses of cadres and people, to come to know the mountain regions, to warmly love the mountain regions, and to build the mountain regions. In the building of the mountain regions, Wulian County has done a fairly good job. They have a correct program that fits in with the spirit of the Third Plenary Session and the county's realities; they have an effective and worthwhile plan for beginning the building of the mountain regions; and they have a leadership team that struggles arduously, dares to innovate, and is united in combat. Consequently, fairly great changes have taken place in the face of the Wulian mountain region, and rather rich experiences have been accumulated about the building of mountain regions. This conference was held for the purpose of summarizing and exchanging advanced experiences from everywhere, to study and spread the experiences of Wulian County, Ying County, and other places, to increase understanding and unify mentalities, to discuss programs, policies, plans, and actions to be taken to build mountain regions, and to study how actions are to be implemented so that both agricultural production and the entire national economy in Shandong Province will be able to develop more healthily and more quickly.

On the second day of the conference, comrades in charge at Wulian County, Ying County, and Jietou Commune in Wulian County gave briefings on their experiences. Delegates to the conference made separate inspections of some advanced units in Wulian County and Ying County before the conference opened. Changes in the natural appearance of Wulian County, the fruit hanging heavy in apple orchards, and the Panshan Highway stretching in all directions in Wulian County, and the large areas of lush and rapidly growing high yield forests along the rivers of Ying County left a deep impression on them.

PROVINCE REPORTS OVERALL GRAIN SURPLUS

Chengdu SICHUAN RIBAO in Chinese 21 Jul 82 p 1

[Article: "Very Great Improvement in Province's Grain Procurement and Marketing Situation. Yet Another Major Result of the Carrying Into Effect of the Spirit of the Third Plenary Session. Virtual Balance in National Grain Income and Expenditures With Slight Surplus; Great Increase in Peasant Grain Rations With Virtual Achievement of Only Procurement From and No Sales To Any Given Production Team"]

[Text] Very great improvement has taken place in the grain procurement and marketing situation in Sichuan Province following several consecutive years of increased grain output. National grain receipts and expenditures are virtually balanced with a slight surplus; peasant grain rations have risen tremendously; and the longstanding rural problems of both grain procurement and grain sales has been solved, with virtually only procurement from and no sales to any given production team. This has been yet another major result of all of the people in the province working under the leadership of all levels of CCP committees and government conscientiously to put into effect rural economic policies and to promote production responsibility systems for vigorous development of agricultural production in the wake of the Third Plenary Session of the 11th Party Central Committee.

During the period of the 10 years of internal turmoil, the province's agricultural production sustained serious damage, and a substantial amount of state purchased grain had to be sold back to rural villages. In more than half of all production teams there was both procurement and sales, and the lives of the peasants were extremely hard. In the province's national granaries, more grain went out than came in, and grain for consumption had to be brought in from elsewhere. Following the smashing of the "gang of four," and particularly since the Third Plenary Session, under a situation of Central Committee liberalization of policies and a program of rest and recuperation, faced with extreme difficulties with grain in the province, the party and government adopted a series of economic measures. One was a reduction in state grain procurement quotas of many years standing for poverty stricken brigades in northwestern Sichuan and in some prefectures; a readjustment of state grain procurement base figures for production teams that provided fairly large amounts of commodity grain, making them procurement in excess of quotas; and arranging for reduced purchases of grain but greater sales of grain to mountain regions, to

minority nationality areas, and to production teams that had been poverty stricken for a long period of time. In addition both state and excess procurement quotas were stabilized, no change guaranteed for several years. When the state needed to increase grain procurement, it held discussions with the peasants and offered preferential prices, taking the grain from communes and brigades that had increased yields or a bumper harvest.

Between 1977 and 1981, grain production increased year after year in the province. Grain output increased by 1.58 trillion jin during these 5 years for an average 3.2 billion annual increase. Such speed of development had been unprecedented since founding of the People's Republic. Rural per capita average distribution of grain rations rose from 369 jin in 1976 to 552 jin in 1981. If grain obtained from private plots and award grain sales for the sale to the state of agricultural and sideline products were added to this, the actual amount of commune member grain rations was more than 600 jin. For the overwhelming majority of peasants, the problem of sufficient food and clothing had been substantially solved. Some well-off families had a certain amount of reserves. The longstanding rural problem of both procurement and sales had been solved for the virtual realization of a situation of only procurement from but no sales to any given production team. The state's grain storage in the province also increased. In addition, as a result of purchases and sales of grain at negotiated prices and liberalization of country fair trade policies, surpluses and shortages in different places were ironed out, prices were held down, and the many needs of the masses for grain were satisfied. Rural villages had surplus grain and raising of the six livestock animals flourished with further advances taking place in market activity, which improved urban supplies of agricultural and sideline products, and grain rations for urban people were everywhere more than enough.

Cost Accounting

AUTHOR: ZHU Rong [2612 2837]

ORG: Deputy Minister, Ministry of Agriculture, Animal Husbandry, and Fishery

TITLE: "Conscientiously Perform the Work of Cost Accounting of Farm Products"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 5 Aug 82 pp 2-4

ABSTRACT: On the basis of cost accounting statistics of 239 units, when the year 1981 is compared with that of 1980, agricultural income is increased by 8.7 percent and agricultural expenditure by 0.8 percent. The ratio of farm expenditure in farm income is reduced from 33.3 percent to 30.9 percent and the agricultural net income is raised by 12.6 percent. For every 100 yuan spent for agriculture, the net income is 224 yuan, amounting to an increase of 11.7 percent. The amount retained by the collective body is increased by 0.8 percent. The distribution to commune members is 145 yuan per person, amounting to an increase of 10 percent. Cost accounting is the basic link in improving the business management and raising the economic benefit. It forms the basis for arranging the benefits of the 3 elements of the state, the collective, and the individual member in a fair manner. Last year, in Yuanjiang County of Hunan, the yield of rape of one household was 182 jin/mu, at a cost of 46 yuan/100 jin; that of another household was 127 jin/mu, at a cost of 54 yuan/100 jin. This was due to the fact that the farmer added 5.9 man-day per mu for intensive cultivation and 60 tan of farm fertilizer. Cost accounting demonstrates the beneficial effect of the technique of the farmer to point it out as the model technique of cultivating rape next year.

AUTHOR: None

ORG: Editorial Writer of the Journal

TITLE: "There is a Need for Changing From Simple Grain Cropping to Multiple Products Operation"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 6, 5 Aug 82 pp 5-6

ABSTRACT: Some say the development of multiple products in agriculture will cause the grain acreage to shrink to result in a reduction of the quantity of grain to be purchased [by the state.] With China's one billion population, grain production is indeed extremely important. The paper claims that the goal of multiple products may be attained without sacrificing grain production by practicing the following: (1) A reasonable arrangement of grain crops and economic crops to increase the yield of both; (2) Barren mountains, grassy slopes, streams, and lakes form the country's great untapped resources for developing multi-products; (3) The development of edible oil, fruits, grass-eating animals, and aquatic products will supplement the grain requirement and change the diet habit of the people.

ATTACH: None

CC: None

TITLE: "Cost Accounting is Absolutely Necessary"

SOURCE: Beijing NONGCUN GONGZUO TONGXUN [RURAL WORK NEWSLETTER] in Chinese No 5,
1980, p. 1.

SUMMARY: Most recently, the national agricultural products cost accounting training course, conducted by the Ministry of Agriculture, Animal Husbandry, and Fishery, commenced for the 3rd time. The work of cost accounting for agricultural products had its beginning no earlier than 1979, when the National Agricultural Committee requested the Ministry of Agriculture to establish experimental points all over the country. Practice of these 2 years has proved that under identical conditions, the communes and brigades with cost accounting show better economic benefits than those without. Some believe that production responsibilities are now linked to individual households; cost accounting has become useless, as the household will suffer from its own wastefulness. This is a misunderstanding. The system of production responsibility does not replace cost accounting, which is to provide scientific basis and information for the use of management. When a county is to establish quotas for production, labor, cost limit, etc. it must have some indices to determine whether the stipulations of the contracts of some commune-brigades are too high or too low. In the past 2 years, there were about 7,000 test points for agricultural cost accounting, including the test points for material-expenditure. The experience may not be sufficient for it to be generally extended, but the party must include this in the daily agenda of committee work and increase the number of test points wherever the conditions permit.

1000

CC: 1000

Evapotranspiration

AUTHOR: XU Zhifang [6079 1807 2455]
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ORG: All of Wuhan College of Hydroelectricity

TITLE: "Study on Mathematic Model to Compute Evapotranspiration of Rice Field"

SOURCE: Beijing SHUILI XUEBAO [JOURNAL OF HYDRAULIC ENGINEERING] in Chinese
No 5, May 82 pp 1-10

TEXT OF ENGLISH ABSTRACT: In this paper, the influence of meteorological factors on evapotranspiration of rice field is analyzed from the point of view of the soil-plant-atmosphere continuum system in the field environment. Based upon this analysis, a mathematic model to compute evapotranspiration of rice field is established, taking into consideration such meteorological factors as the air temperature, the sunshine time, the wind velocity, and the saturation deficit. Results of the theoretical calculation is verified by experimental data of five irrigated areas of Hubei Province and the Chuxian Prefecture of Anhui Province.

6248

CSC: 4011/204

Plant Disease

AUTHOR: CHEN Suoyi [7115 0155 5030]

OR: Virus Section, Shanghai Biochemistry Institute, Chinese Academy of Sciences

TITLE: "Advances in Research on Yellow Plant Diseases in China"

SOURCE: Tianjin NONGYU BAOHU [PLANT PROTECTION] in Chinese No 1, 1982 pp 7-9

ABSTRACT: The most frequent symptoms of yellow plant diseases are clustering of branches and leaves, small leaf size, dwarfism, atrophy and growing of foliage instead of flowers; one disease of this kind is mulberry atrophy; its pathogen was discovered in 1967 by a Japanese researcher and was found to be Mycoplasma-like organisms (MLO). Thus far, nearly 100 varieties of MLO have been discovered. In 1970s, Chinese researchers reported cases of MLO-caused plant diseases; in 1978, a breakthrough was achieved in China when an international debate of more than two decades' standing concerning the pathogen of orange xanthoma was solved as being caused by Procaryote-like organisms (PLO). In 1980, Wang Xigai (3761 0410 0818) et al. reported that the pathogen of curled leaf disease of seaweed is caused by Spiroplasma-like organisms (SLO); this was the first time in the world that MLO had been discovered in aquatic grasses. Finally, the author stressed the isolation and culture of MLO as a major challenge facing the world today.

AUTHOR: FAN Shironi [5400 2514 1369]

OR: Institute of Plant Protection, Guangdong Provincial Academy of Agricultural Sciences

TITLE: "A Preliminary Report on the Reaction of Rice Varieties to the Rice Blast Physiological Races in Guangdong Province"

SOURCE: Tianjin NONGYU BAOHU [PLANT PROTECTION] in Chinese No 2, 1982 pp 2-4

ABSTRACT: Once a rice strain with disease resistance and high yield is cultivated over a wide area, Mycorrhizae of rice blast physiological races adapted to the particular strain will multiply and spread quickly, inflicting an epidemic and crop failures. So on the one hand, selective breeding of wide spectrum disease-resistant and high-yield rice strains should be practised; on the other hand, planned rotation and cultivation of different strains can effectively prolong the number of years that these strains can be cultivated. With this purpose in mind, the author conducted a test in 1980 for determining disease resistance in rice strains projected to be propagated in Guangdong Province. A total of 30 specimens of Mycorrhizae representing eight species and 24 races were tested on 10 rice strains for blast physiological races. Three types of results were observed: resistance (R), mild resistance (F) and susceptibility (S). Of the 10 rice strains tested, five strains were determined to have more than 13 percent resistance to the 30 specimens of Mycorrhizae tested. These five strains are: Shengli 10, Shengli 20, Shengli 13, and Shengli 13. Included are

AUTHOR: SHAO Derong [1730 1795 3310]

ORG: Hangzhou Municipality Plant Protection and Plant Inspection Station

TITLE: "Analysis of Epidemic Factors of Late Rice Ear Blast in Hangzhou Municipality"

SOURCE: Tianjin JIYU BAOHU [PLANT PROTECTION] in Chinese No 2, 1982, pp 5-6

ABSTRACT: The 1980 was the year with the decade's highest epidemic damage of ear blast in late-yielding rice plantings in Hangzhou Municipality; 23 percent of the late-yielding rice cultivation was affected. However, with one-third of the area planted with late-yielding rice, hybrid nonglutinous long grain rice was generally not afflicted with the blast. The author lists four reasons for this outbreak of ear blast: (1) A limited number of strains of late-yielding rice were cultivated year after year over a wide area, thus causing the propagation of blast physiological races among Mycorrhizae. (2) Cold overcast and rainy weather by the time of the moving-ears stage further promotes the epidemic. (3) Heavy and late application of chemical nitrogen fertilizer induces the outbreak of disease. (4) Late seedling transplantation of late-yielding rice weakens the disease resistance of seedlings during rainy weather. The author advocates three measures to combat the epidemic: (1) Select more varied rice strains for cultivation to avoid concentrating on a small number of varieties. (2) Change the field microclimate in order to impede the breeding and infestation of disease germs. (3) Use pesticides to prevent and control seedling blast, ear blast, and leaf blast.

1042

1042 1042 1042

Rice Cultivation

AUTHOR: LI Linlie [2621 2651 3525]

ORG: Institute of Grain Crops, Yunnan Provincial Academy of Agricultural Sciences

TITLE: "Discussion on Cold Damage to Paddy Rice Cultivation in Yunnan Province"

SOURCE: Kunming YUNNAN NONGYE KEJI [YUNNAN AGRICULTURAL SCIENCE AND TECHNOLOGY] in Chinese No 4, 1982 pp 16-19

ABSTRACT: Given the low latitude plateau conditions of this province, generally rice yields are high and stable at elevations of about 1500 meters; yields will suffer if the elevation is 300-400 meters higher or lower. The climate is mild, generally unmarked by winter or summer but only a dry and a rainy seasons. Cold weather and rain in the rice ripening time of June through September occasionally reduce the harvest somewhat and even cause crop failures. The author suggests the selective breeding of local cold-resistant rice strains with the early sowing (in March) to utilize the warm sunny spring weather so that rice plants can grow enough heads of grain in June before the frequent rains set in. The background data came from three (1979-1981) Yunnan Province Paddy Rice Cold Damage Scientific Research Conferences.

10424

CSO: 4011/.21

Seed Banks

AUTHOR: ZHENG Menglin [6774 1125 2651]

ORG: None

TITLE: "Advice on Setting up Seed Banks"

SOURCE: Beijing NONGYE GONGCHENG [AGRICULTURAL ENGINEERING] in Chinese No 3, 1982
pp 20-23

ABSTRACT: In several seed banks built in China, the exterior walls were built of Number 25 red brick and plastered with Number 50 cement mortar. Chinese builders know, when the seed storeroom temperature is lower than -40°C , brick structures will fail to withstand the cold after two to three years. So after last year's completion of China's first seed bank in Guangxi, construction and operation experiences were recorded for other buildings of the same kind (in Beijing and Heilongjiang); a plan drawing is shown for a similar building in North China. These buildings are kept at -5°C and a relative humidity of 30 percent. Included are eight figures and one table, listing seed banks in Japan, Soviet Union, United States, Guangxi, and the International Rice Institute in the Philippines.

10424

CSO: 4011/226

Vegetation Changes

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DU Naiqiu [2659 0035 4428]
ZHANG Zibin [1728 1311 2430]

ORG: KONG, DU of Research Institute of Botany, Chinese Academy of Sciences;
ZHANG of Beijing Municipal Bureau of Geology

TITLE: "Vegetational Development and Climatic Changes in the Last 10,000 Years in Beijing"

SOURCE: Beijing ZHIWU XUEBAO [ACTA BOTANICA SINICA] in Chinese No 2, 1982 pp 172-181

TEXT OF ENGLISH ABSTRACT: In the previous paper, the authors discussed the vegetational and climatic changes in the past 30,000-10,000 years in Beijing. The paper is based on the information of spore-pollen assemblages obtained from the Gaolizang, Davangzhang, Yinjiahe, Xiwuliying, and etc. with drilling cores in the vicinity of Beijing. About 12,000-10,000 years ago, deciduous broad-leaved trees were flourishing in Beijing. At that time, the climate was warm and rather wet. About 10,000-8,000 years ago, the herbaceous plants, such as artemisia, Compositae were flourishing in plain of Beijing and the mountainous region was dominant in subalpine conifer forest, consisting of Pinus, Picea, and Abies. According to the increase of needle-leaved forests at that time, we think that the climate was cooler and wetter about 9,000 B.P. In the past 8,000-6,000 years, needle-leaved and deciduous broad-leaved mixed forests, consisting of Pinus, Quercus, and Betula

[continuation of ZHIWU XUEBAO No 2, 1982 pp 172-181]

thrived under a warm and wet climate; the bogs were better developed in the plain. During 6,000-2,000 years, in a general review of the spore-pollen assemblages of Beijing, we think that the climate was warm, especially about 5,000 years ago; the flora was mainly composed of deciduous broad-leaved trees, such as Ulmus, Quercus, Morus, and Betula. But, during 5,600 years ago or so, spruce-fir forests became predominant in the low land and the plain of Beijing again. At that time, the annual mean temperature was lower than that of the present. It corresponded to the new glacial period. The flora mainly was composed of Pinus, which had obviously been decreasing since 2,000 years. The grassland was increased in Beijing.

6248

CSO: 4011/223

Winter Wheat

AUTHOR: CHEN Peiyuan [7115 1014 0337]
JIANG Yongluo [5592 3057 5012]
LI Ying [2621 5391]

ORG: All of Northwest Institute of Soil and Water Conservation, Chinese Academy of Sciences

TITLE: "On the Effect of Different Levels of Vapor Tension on the Germination of Winter Wheat Under a Sub-optimal Temperature"

SOURCE: Shanghai ZHIWU SHENGLI XUEBAO [ACTA PHYTOPHYSIOLOGIA SINICA] in Chinese No 2, May 82 pp 115-125

TEXT OF ENGLISH ABSTRACT: The results of a study made on the effect of different levels of aqueous vapor tension as simulated solutions of mannitol in various concentrations on the germination of winter wheat under a sub-optimal temperature are as follows: (1) Moisture tensions under 15 atmospheres do not seem to have any effect on the total germination ratio. (2) When the moisture stress is increased within the range of 0-18 atmospheres there is a marked progressive decrease in the rate of water-intake, in the speed of germination, in the rate of root growth, and in the intensity of respiration, and the varietal differences become more and more remarkable. (3) The locally selected drought-resistant cultivars, as compared with those bred experimentally, have the advantages of higher respiration rate and higher germination energy and are able to maintain greater germination percentage and better root growth at a moisture stress as high as 18 atmospheres. It is suggested that in developing drought-resistant wheat varieties, such factors as moisture intake capability, germination rate and ratio, root growth and respiration intensity should be taken into consideration.

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CSO: 4011/220

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